

**C-2**

**HARDING ESE LABORATORY DATA VALIDATION REPORTS**

## **DATA VALIDATION SUMMARY SPRING 2002 RI SOIL PROGRAM**

### **STRATFORD ARMY ENGINE PLANT STRATFORD, CONNECTICUT**

#### **Introduction:**

Data validation and chemist reviews were completed on soil samples were collected in April 2002, at the Stratford Army Engine Plant, Stratford, Connecticut. Samples were analyzed by COMPUCHEM, of Cary, NC. The data packages were validated using USEPA Region I Tier II and Tier III (10% of samples) procedures (USEPA, 1996). A listing of sample delivery groups (SDGs) and samples contained in this data set is presented in Table 1. With the exception of a subset of sample collected for semivolatile analysis, samples were extracted using the Synthetic Precipitate Leaching Procedure (SPLP). A summary of analytical methods used during the soil program is presented below:

- Semivolatile Organic Compounds (SVOCs) using Method 8270C
- SPLP Extraction for Volatile Organic Compounds (VOCs) using Method 1311/8260B
- SPLP Extraction for SVOCs using Method 1311/8270C
- SPLP Extraction for inorganics using Method 1311/6010B
- SPLP Extraction for polychlorinated biphenyls (PCBs) using Method 1311/8082

Soil samples collected for SPLP provided data for use in soil/groundwater contamination evaluations using the Connecticut Pollutant Mobility Criteria standards. The SPLP extracts were analyzed for TCL VOCs and SVOCs, and inorganics as identified on Table 2 through Table 4. A subset of SPLP samples was also analyzed for PCBs and reported as TCL aroclors. A subset of soils was also analyzed for total SVOCs in soil.

Data quality assessments included formal validation using USEPA guidelines. Data packages were validated using USEPA Region I Tier II and Tier III data review guidelines (USEPA, 1996). Tier III validation was completed on one data package (approximately 10 percent of the samples). Tier II validation was completed on the remaining samples. If necessary, sample results were qualified by the project chemist. Samples were qualified based on chemist professional judgement and procedures identified in USEPA validation guidelines.

Tentatively identified compounds (TICs) were reported in the VOA and SVOA samples. If multiple results for a TIC or TIC chemical group (i.e., Unknown hydrocarbon) were reported for the same sample, the results were summed into a single result for that TIC or TIC chemical group in the final data set.

## 2.0 Volatile Organic Compounds

Samples for volatile organics were collected for SPLP extraction prior to analysis. SPLP samples were collected and shipped in capped liners to limit exposure of soil to air, and extraction was initiated within 48 hours of sample collection.

Data were evaluated for the following parameters:

- \* Collection and Preservation
- \* Holding Times
- \* Instrument Performance Check (tuning)
- \* Initial Calibration
- Continuing Calibration
- \* Surrogate Recoveries
- \* Internal Standards
- Blanks
- Duplicates
- \* Laboratory Control Samples
- Matrix Spike/Matrix Spike Duplicates

\* - all criteria were met for this parameter

With the exception of the following items discussed below, results are determined to be usable as reported by the laboratory.

### Continuing Calibration

In SDG Q2512 and S2512, bromomethane had a percent difference greater than 25% in one of the continuing calibrations. Results for bromomethane in samples associated with this calibration were qualified as estimated (J) in the appropriate samples.

In SDG W2512, the percent difference for bromomethane was greater than 25% in the continuing calibration of May 13. Results are qualified as estimated (J) in samples EBS01201XX, EBS01204XX and EBS01104XX.

### Blanks

In SDG Q2512 and S2512, low concentrations of several target compounds were reported in method blanks associated with the SPLP and total VOC analyses. Target compounds included acetone, 1,2-dichloroethane, toluene, and xylene ranging from 1 µg/L to 4 µg/L. In accordance with validation guidelines, action levels were established and samples with concentrations less than the action levels were qualified non-detect U.

### Field Duplicates

Two VOA field duplicates were collected during the soil sampling event. Results are summarized on Table 5. A relative percent difference (RPD) goal of 50 for detected target compounds is identified in the USEPA Region I guidelines. For all VOCs detected in the two field duplicate pairs the RPD exceeded this goal indicating a wide variability would be expected in the data set due to sample collection or sample matrix variability. Data qualifications are described below.

In SDG S2512, all results for sample SB09A1403XX and its field duplicate SB09A1403XD had an RPD of greater than 50% and were qualified as estimated (J).

In SDG U2512, a field duplicate was submitted for sample EBS14101XX. The relative percent difference (RPD) for methylene chloride was greater than 50%. All positive detections for those analytes in the sample were qualified as estimated (J).

### Matrix Spike

A matrix spike/matrix spike duplicate was performed on sample EBS29204XX. The percent recoveries for methylene chloride and tetrachloroethene were outside laboratory established recovery limits. A high concentration of methylene chloride was present in the original sample and no qualification was done. A high recovery of tetrachloroethene (200 percent) was reported. This compound was not reported in any sample at a concentration greater than the quantitation limit, and no action was taken due to the MS/MSD results.

## **3.0 Semivolatile Organics**

The project detection limit goals for SVOCs required analysis by Method 8270C and Modified 8270 SIM to achieve the project quantitation limits identified on Table 2. For the SPLP-SVOCs, the full USEPA CLP Target Compound List is reported. Low detection limits are identified for a subset of PAH compounds on Table 2. For the SVOA Modified SIM, an additional low concentration lab control sample will be analyzed at .5 µg/L for the PAHs requiring quantitation limits lower than 10 µg/L with each sample batch. The control limits used to evaluate the low concentration control sample were 50% - 150% recovery. The PAHs include benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene.

Data were evaluated for the following parameters:

- \* Collection and Preservation
- \* Holding Times
- \* Instrument Performance Check (tuning)
- Initial Calibration



- Continuing Calibration
- \* Surrogate Recoveries
- \* Internal Standards
- Blanks
- \* Duplicates
- Laboratory Control Samples
- \* Matrix Spike/Matrix Spike Duplicates

\* - all criteria were met for this parameter

With the exception of the following items discussed below, results are determined to be usable as reported by the laboratory.

#### Initial Calibration

In all SDG data sets the percent relative standard deviation (RSD) for 2,4-dinitrophenol was greater than 30 in the initial calibration. Results for 2,4-dinitrophenol were qualified as estimated (J).

In SDG W2512, the percent RSD for hexachlorocyclopentadiene and 4,6-dinitro-2-methylphenol was greater than 30%. Sample results for these compounds in this data set are qualified as estimated (J).

#### Continuing Calibration

In SDG Q2512 and S2512, 2,4-dinitrophenol had a percent difference greater than 25% in the continuing calibration. Results for 2,4-dinitrophenol were qualified as estimated (J).

In SDG W2512, the percent RSD for hexachlorocyclopentadiene, benzo (k) fluoranthene and n-nitroso-di-n-propylamine was greater than 25%. Results are qualified as estimated (J).

In SDG R2512, the percent difference for hexachlorocyclopentadiene and 4-nitrophenol was greater than 25%. Results are qualified as estimated (J).

#### Laboratory Control Samples

A subset of target compounds including bis(2-chloroethyl)ether, 2,2'-oxybis(1-chloropropane), N-nitroso-diphenylamine, N-nitroso-di-n-propylamine, bis(2-chloroethoxy)methane, 2-nitroaniline, dimethylphthalate, 3-nitroaniline, 2,4-dinitrophenol, diethylphthalate, 4-chlorophenyl-phenyether, 4-bromophenyl-phenyether, 4-nitroaniline, 4,6-dinitro-2-methylphenol, pentachlorophenol, and phthalates had high recoveries above the QC limits in the laboratory control sample. For the majority of these target compounds there were no detections reported in the samples and no qualifications were necessary. One exception is bis (2-ethylhexyl) phthalate in sample

EBS14104XX. Reported results for bis (2-ethylhexyl) phthalate in sample EBS14104XX are qualified estimated (J) and may be biased high.

In SDG W2512, the percent recovery for naphthalene was below criteria. Sample results are qualified estimated (J).

In SDG R2512, bis(2-ethylhexyl)phthalate and di-n-octylphthalate had recoveries above the QC limits in the laboratory control sample. Positive detections were qualified as estimated (J) in the samples.

#### Blanks

Blank contamination was routinely observed in the method blank for bis(2-ethylhexyl)phthalate. Action levels were established and samples with concentrations less than the action levels were qualified non-detect U.

In SDG W2512, blank contamination was observed in the method blank for bis (2-ethylhexyl) phthalate, o-hydroxybiphenyl, 9-octadecenamide and unknown TICs. Action levels were established and samples with concentrations less than the action levels were qualified non-detect U.

In SDG R2512, blank contamination was observed in the method blank for some unknown tentatively identified compounds (TICs). These TICs were rejected from all samples.

#### Matrix Spikes/Matrix Spike Duplicates

2-Nitrophenol had a low recovery (26%) in the MSD and a high percent relative percent difference (55) for the spike pair. 2-Nitrophenol was qualified estimated (J) in the original sample SB08H1101XX.

2,4,6-Trichlorophenol had a low recovery (36%) in the MSD. 2,4,6-Trichlorophenol was qualified estimated (J) in the original sample SB08H1101XX.

2,4-Dinitrophenol and 4,6-dinitro-2-methylphenol had high relative percent difference in the spike pairs (124 and 56, respectively). 2,4-Dinitrophenol and 4,6-dinitro-2-methylphenol were qualified estimated (J) in the original sample SB08H1101XX.

Bis(2-ethylhexyl)phthalate and butylbenzylphthalate had high recovery (140%). Positive detections of bis(2-ethylhexyl)phthalate and di-n-octylphthalate were qualified estimated (J) in the original sample SB08H1101XX.

#### Miscellaneous

In SDG R2512, the laboratory was unable to resolve benzo(b)fluoranthene and benzo(k)fluoranthene in some samples. Benzo(b)fluoranthene and benzo(k)fluoranthene

results in all samples, except SB09B3101XX and SB22A1300XX, were qualified estimated (J).

#### **4.0 Method 8082 PCBs**

SPLP extracts were analyzed for aroclors using USEPA Method 8082. Data were evaluated for the following parameters:

- \* Collection and Preservation
- \* Holding Times
- \* Initial Calibration
- \* Continuing Calibration
- Surrogate Recoveries
- \* Blanks
- \* Duplicates
- \* Laboratory Control Samples
- \* Matrix Spike/Matrix Spike Duplicates
- \* Calculations and Reporting

\* - all criteria were met for this parameter

With the exception of the following items discussed below, results are determined to be usable as reported by the laboratory.

#### **Surrogate Recovery**

Low surrogate recovery was reported for decachlorobiphenyl (DCB) in samples SB09C2101XX and SB08L1701XD. Recovery ranged from 34 to 43 percent indicating a possible low bias. No aroclors were reported in these sample, and quantitation limits were qualified estimated (UJ).

#### **5.0 Inorganics**

Validation was completed using USEPA Region I guidelines (USEPA, 1989; USEPA, 1996).

Data were evaluated for the following parameters:

- \* Collection and Preservation
- \* Holding Times
- \* Instrument Calibration
- Blanks
- Duplicates
- \* Laboratory Control Samples

\* Matrix Spike/Matrix Spike Duplicates

\* - all criteria were met for this parameter

With the exception of the following items discussed below, results are determined to be usable as reported by the laboratory.

Reporting

Target analytes detected at concentrations between the instrument detection limit (IDL) and the quantitation limit were qualified B by the laboratory. The B qualifiers were changed to estimated (J) in the final data set.

Blanks

Some blank contamination above the IDL was observed in QC blanks. Analytes include antimony, barium, copper, iron, calcium, lead, magnesium, potassium, sodium, and zinc. Action levels were established and sample results were qualified non-detect U at the quantitation limit if concentrations were less than action levels.

Field Duplicates

Two field duplicates were collected and analyzed for SPLP inorganics. Region I validation guidelines specify a field duplicate RPD goal of 50 for soils. For soil samples with concentrations less than 5X the quantitation limit, the difference between the sample concentrations should be less than 4X the quantitation limit. For the SPLP review, the soil validation criteria was used to evaluate sample and analytical precision.

In SDG S2512, the difference for aluminum and iron was greater than 4X the CRDL for results less than 5X the CRDL for sample SB01A1204XX and its duplicate. Aluminum and iron results were qualified as estimated (J) in accordance with the guidelines. Mercury was also reported at 0.34 µg/L in the original sample and non-detect in the duplicate. The result for mercury in the original sample and duplicate were qualified as estimate (J) and (UJ).

In SDG U2512 a field duplicate was collected at EBS14104XX. The relative percent difference for iron and sodium exceed the duplicate precision goal. Results reported for these analytes in the sample and duplicate are qualified as estimated (J).

Lab Duplicate

In SDG W2512, a laboratory duplicate was analyzed using sample SB12D1101XX. The RPD for aluminum and copper with results greater than the quantitation limit exceeded the RPD goal of 50. Aluminum results were evaluated using Region I goals for field duplicates, and no qualification was needed. Copper results were determined to be related to laboratory blank contamination (previously discussed), and results were

qualified non-detect U. No qualification for copper was done due to the lab duplicate results.

#### Matrix Spike/Duplicate

MS/MSD analysis was completed on sample SB12D1101XX. The percent recoveries for copper (133% to 135%) in the matrix spike and matrix spike duplicate exceeded the upper limits of 125%. Copper was reported a not detected in the original sample, and no qualification was completed for that sample.

#### **Reference:**

“Region I Laboratory Data Validation Functional Guidelines For Evaluating Inorganics Analyses”; Hazardous Site Evaluation Division; U.S. Environmental Protection Agency (USEPA), 1989.

U.S. Environmental Protection Agency (USEPA), 1996. “Region I EPQ-NE Data Validation Guidelines For Evaluating Environmental Analyses”; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996.

**TABLE 1**  
**DATA VALIDATION SUMMARY**  
**SPRING 2002 RI SOIL PROGRAM**

**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

METHOD	SDG	SAMPLE ID	SAMPLE DATE	VALIDATION LEVEL
6010B	Q2512	SB01A1104XX	4/16/02	Tier III
6010B	Q2512	SB01A1204XD	4/16/02	Tier III
6010B	Q2512	SB01A1204XX	4/16/02	Tier III
6010B	S2512	SB09A1103XX	4/17/02	Tier II
6010B	S2512	SB09A1401XX	4/17/02	Tier II
6010B	S2512	SB09B4100XX	4/17/02	Tier II
6010B	S2512	SB09B4102XX	4/17/02	Tier II
6010B	S2512	SB12A1101XX	4/17/02	Tier II
6010B	S2512	SB12B3203XX	4/17/02	Tier II
6010B	S2512	SB13C1103XX	4/17/02	Tier II
6010B	S2512	SB16A1203XX	4/10/02	Tier II
6010B	U2512	EBS14101XD	4/18/02	Tier II
6010B	U2512	EBS14101XX	4/18/02	Tier II
6010B	U2512	EBS14104XX	4/18/02	Tier II
6010B	U2512	SB13D1101XX	4/18/02	Tier II
6010B	U2512	SB24A3100XX	4/17/02	Tier II
6010B	W2512	EBS11101XX	5/3/02	Tier II
6010B	W2512	EBS11104XX	5/3/02	Tier II
6010B	W2512	SB08C4101XX	5/3/02	Tier II
6010B	W2512	SB12D1101XX	5/2/02	Tier II
6010B	W2512	SB13G1105XX	5/2/02	Tier II
6010B	W2512	SB17A2601XX	5/3/02	Tier II
6010B	W2512	SB23A1304XX	5/3/02	Tier II
6010B	W2512	SB27E1102XX	5/3/02	Tier II
6010B	W2512	SB28A2101XX	5/2/02	Tier II
6010B	W2512	SB29A1402XX	5/2/02	Tier II
8082	Q2512	SB06A2100XX	4/16/02	Tier III
8082	Q2512	SB06A2301XX	4/16/02	Tier II
8082	Q2512	SB09C2101XX	4/16/02	Tier II
8082	S2512	SB08L1701XD	4/17/02	Tier II
8082	S2512	SB08L1701XX	4/17/02	Tier II
8082	X2512	SB09A1403XX	6/6/02	Tier II
8260B	Q2512	EBS12101XX	4/16/02	Tier II
8260B	Q2512	EBS12104XX	4/16/02	Tier II
8260B	Q2512	EBS12201XX	4/16/01	Tier II
8260B	Q2512	EBS12204XX	4/16/01	Tier II
8260B	Q2512	SB06A3105XX	4/16/02	Tier III
8260B	Q2512	SB09B8100XX	4/16/02	Tier III
8260B	Q2512	SB09B8102XX	4/16/02	Tier III
8260B	Q2512	SB09C1103XX	4/16/02	Tier III
8260B	Q2512	SB09C2103XX	4/16/02	Tier III
8260B	S2512	EBS73101XX	4/17/02	Tier II
8260B	S2512	EBS73104XX	4/17/02	Tier II
8260B	S2512	SB09A1103XX	4/17/02	Tier II
8260B	S2512	SB09A1201XX	4/17/02	Tier II
8260B	S2512	SB09A1203XX	4/17/02	Tier II
8260B	S2512	SB09A1301XX	4/17/02	Tier II
8260B	S2512	SB09A1303XX	4/17/02	Tier II
8260B	S2512	SB09A1401XX	4/17/02	Tier II
8260B	S2512	SB09A1403XD	4/17/02	Tier II

**TABLE 1**  
**DATA VALIDATION SUMMARY**  
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**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

METHOD	SDG	SAMPLE ID	SAMPLE DATE	VALIDATION LEVEL
8260B	S2512	SB09A1403XX	4/17/02	Tier II
8260B	S2512	SB09A2101XX	4/17/02	Tier II
8260B	S2512	SB09A2103XX	4/17/02	Tier II
8260B	S2512	SB09B4100XX	4/17/02	Tier II
8260B	S2512	SB12B3201XX	4/17/02	Tier II
8260B	S2512	SB27E10105XX	4/17/02	Tier II
8260B	S2512	SB31A1105XX	4/17/02	Tier II
8260B	U2512	EBS14101XD	4/18/02	Tier II
8260B	U2512	EBS14101XX	4/18/02	Tier II
8260B	U2512	EBS14104XX	4/18/02	Tier II
8260B	U2512	EBS29101XX	4/18/02	Tier II
8260B	U2512	EBS29104XX	4/18/02	Tier II
8260B	U2512	EBS43101XX	4/18/02	Tier II
8260B	U2512	EBS43104XX	4/18/02	Tier II
8260B	U2512	SB13D1101XX	4/18/02	Tier II
8260B	U2512	SB13D1305XX	4/18/02	Tier II
8260B	U2512	SB24B1102XX	4/18/02	Tier II
8260B	W2512	EBS01101XX	5/2/02	Tier II
8260B	W2512	EBS01104XX	5/2/02	Tier II
8260B	W2512	EBS01201XX	5/2/02	Tier II
8260B	W2512	EBS01204XX	5/2/02	Tier II
8260B	W2512	EBS29201XX	5/2/02	Tier II
8260B	W2512	EBS29204XX	5/2/02	Tier II
8270C	Q2512	EBS12101XX	4/16/02	Tier II
8270C	Q2512	EBS12104XX	4/16/02	Tier II
8270C	Q2512	EBS12201XX	4/16/01	Tier II
8270C	Q2512	EBS12204XX	4/16/01	Tier II
8270C	Q2512	SB08H1101XX	4/16/02	Tier II
8270C	Q2512	SB29A1201XX	4/16/02	Tier II
8270C	Q2512	SB29A1301XX	4/16/02	Tier II
8270C	Q2512	SB29A1305XX	4/16/02	Tier II
8270C	R2512	SB08H1101XX	4/16/02	Tier III
8270C	R2512	SB09B3101XX	4/18/02	Tier III
8270C	R2512	SB09B3105XD	4/18/02	Tier III
8270C	R2512	SB09B3105XX	4/18/02	Tier III
8270C	R2512	SB15A1100XD	4/18/02	Tier III
8270C	R2512	SB15A1100XX	4/18/02	Tier II
8270C	R2512	SB22A1100XX	4/18/02	Tier II
8270C	R2512	SB22A1200XX	4/17/02	Tier II
8270C	R2512	SB22A1300XX	4/18/02	Tier II
8270C	R2512	SB29A1201XX	4/16/02	Tier II
8270C	R2512	SB29A1301XX	4/16/02	Tier II
8270C	R2512	SB29A1305XX	4/16/02	Tier II
8270C	S2512	EBS73101XX	4/17/02	Tier II
8270C	S2512	EBS73104XX	4/17/02	Tier II
8270C	S2512	SB12B3201XX	4/17/02	Tier II
8270C	U2512	EBS14101XX	4/18/02	Tier II
8270C	U2512	EBS14104XX	4/18/02	Tier II
8270C	U2512	EBS29101XX	4/18/02	Tier II
8270C	U2512	EBS29104XX	4/18/02	Tier II

**TABLE 1**  
**DATA VALIDATION SUMMARY**  
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**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

METHOD	SDG	SAMPLE ID	SAMPLE DATE	VALIDATION LEVEL
8270C	U2512	EBS43101XX	4/18/02	Tier II
8270C	U2512	EBS43104XX	4/18/02	Tier II
8270C	U2512	SB09B3101XX	4/18/02	Tier II
8270C	U2512	SB09B3105XD	4/18/02	Tier II
8270C	U2512	SB09B3105XX	4/18/02	Tier II
8270C	U2512	SB15A1100XX	4/18/02	Tier II
8270C	U2512	SB22A1100XX	4/18/02	Tier II
8270C	U2512	SB22A1200XX	4/17/02	Tier II
8270C	U2512	SB22A1300XX	4/18/02	Tier II
8270C	V2512	SBK02101	4/18/02	Tier II
8270C	W2512	EBS01101XX	5/2/02	Tier II
8270C	W2512	EBS01104XX	5/2/02	Tier II
8270C	W2512	EBS01201XX	5/2/02	Tier II
8270C	W2512	EBS01204XX	5/2/02	Tier II
8270C	W2512	EBS29201XX	5/2/02	Tier II
8270C	W2512	EBS29204XX	5/2/02	Tier II
8270C	W2512	SB23A1304XX	5/3/02	Tier II



**TABLE 2**  
**VOLATILE TARGET COMPOUNDS AND QUANTITATION LIMITS**  
**SPRING 2002 RI PROGRAM**

**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD,CONNECTICUT**

ANALYTE	SPLP WATER QL 5 mL purge µg/L
Chloromethane	5
Bromomethane	5
Vinyl Chloride	5
Chloroethane	5
Methylene Chloride	5
Acetone	20
Carbon Disulfide	5
1,1-Dichloroethene	5
1,1-Dichloroethane	5
1,2-Dichloroethene (cis)	5
1,2-Dichloroethene (trans)	5
Chloroform	5
1,2-Dichloroethane	5
2-Butanone	20
1,1,1-Trichloroethane	5
Carbon Tetrachloride	5
Bromodichloromethane	5
1,2-Dichloropropane	5
cis-1,3-Dichloropropene	5
Trichloroethene	5
Dibromochloromethane	5
1,1,2-Trichloroethane	5
Benzene	5
Trans-1,3-Dichloropropene	5
Bromoform	5
4-Methyl-2-Pentanone	20
2-Hexanone	20
Tetrachloroethene	5
1,1,2,2-Tetrachloroethane	5
Toluene	5
Chlorobenzene	5
Ethylbenzene	5
Styrene	5
Total Xylenes	5

**TABLE 3**  
**SEMIVOLATILE ORGANICS TARGET COMPOUNDS AND QUANTITATION LIMITS**  
**SPRING 2002 RI PROGRAM**

**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

ANALYTE	SOIL	SPLP WATER
	QL µg/kg	QL µg/L
Phenol	330	10
bis(2-Chloroethyl) ether	330	10
2-Chlorophenol	330	10
1,3-Dichlorobenzene	330	10
1,4-Dichlorobenzene	330	10
1,2-Dichlorobenzene	330	10
2-Methylphenol	330	10
bis (2-Chloroisopropyl) ether	330	10
4-Methylphenol	330	10
n-Nitroso-Di-n-propylamine	330	10
Hexachloroethane	330	10
Nitrobenzene	330	10
Isophorone	330	10
2-Nitrophenol	330	10
2,4-Dimethylphenol	330	10
bis(2-Chloroethoxy)methane	330	10
2,4-Dichlorophenol	330	10
1,2,4-Trichlorobenzene	330	10
Naphthalene	330	10
4-Chloroaniline	330	10
Hexachlorobutadiene	330	10
4-Chloro-3-Methylphenol	330	10
2-Methylnaphthalene	330	10
Hexachlorocyclopentadiene	330	10
2,4,6-Trichlorophenol	330	10
2,4,5-Trichlorophenol	830	25
2-Chloronaphthalene	330	10
2-Nitroaniline	830	25
Dimethylphthalate	330	10
Acenaphthylene	330	10
2,6-Dinitrotoluene	330	10
3-Nitroaniline	830	25
Acenaphthene	330	10
2,4-Dinitrophenol	830	25
4-Nitrophenol	830	25
Dibenzofuran	330	10
2,4-Dinitrotoluene	330	10
Diethylphthalate	330	10
4-Chlorophenyl-phenylether	330	10
Fluorene	330	10
4-Nitroaniline	330	25

**TABLE 3**  
**SEMIVOLATILE ORGANICS TARGET COMPOUNDS AND QUANTITATION LIMITS**  
**SPRING 2002 RI PROGRAM**

**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

ANALYTE	SOIL	SPLP WATER
	QL µg/kg	QL µg/L
4,6-Dinitro-2-methylphenol	830	25
n-Nitrosodiphenylamine	330	10
4-Bromophenyl-phenylether	330	10
Hexachlorobenzene	330	10
Pentachlorophenol	830	25
Phenanthrene	330	10
Anthracene	330	10
Carbazole	330	10
Di-n-butyl-phthalate	330	10
Fluoranthene	330	10
Pyrene	330	10
Butyl benzylphthalate	330	10
3,3'Dichlorobenzidine	330	10
Benzo(a)anthracene	330	0.3
Chrysene	330	10
bis(2-Ethylhexyl)phthalate	330	10
Di-n-octyl phthalate	330	10
Benzo(b)fluoranthene	330	0.4
Benzo(k)fluoranthene	330	2.5
Benzo(a)pyrene	330	1
Indeno(1,2,3-cd)pyrene	330	10
Dibenz(a,h)anthracene	330	10
Benzo(g,h,i)perylene	330	10

**TABLE 4**  
**INORGANIC TARGET ANALYTES AND QUANTITATION LIMITS**  
**SPRING 2002 RI PROGRAM**

**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

ANALYTE	SPLP AQUEOUS QL µg/L
Aluminum	200
Antimony	6
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	3
Magnesium	5000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5000
Selenium	5
Silver	10
Sodium	5000
Thallium	10
Vanadium	50
Zinc	20

**TABLE 5**  
**SUMMARY OF FIELD DUPLICATES**  
**DATA VALIDATION SUMMARY**  
**SPRING 2002 RI SOIL PROGRAM**

**STRATFORD ARMY ENGINE PLANT**

PARAMETER	SAMPLE ID	ANALYTE	RESULT	RESULT	RPD
SPLP VOA	EBS14101XX- EBS14101XD	METHYLENE CHLORIDE	8	240 J	-187
SPLP VOA	SB09A1403XX- SB09A1403XD	1,1-DICHLOROETHANE	21 J	5 U	123
		1,1-DICHLOROETHENE	11 J	5 U	75
		BENZENE	13 J	5 U	89
		CHLOROBENZENE	46 J	.9 J	192
		CHLOROETHANE	21 J	5 U	123
		CIS-1,2-DICHLOROETHENE	3700 J	28 J	197
		CIS-1,3-DICHLOROPROPENE	50 U	5 U	164
		ETHYLBENZENE	56 J	3 J	180
		METHYLENE CHLORIDE	45 J	6 J	153
		TOLUENE	230 J	7 J	188
		TRANS-1,2-DICHLOROETHENE	49 J	5 U	163
		VINYL CHLORIDE	270 J	3 J	196
		XYLENE (TOTAL)	370 J	46 J	156
SPLP INORGANICS	EBS14101XX- EBS14101XD	ALUMINUM	877	626	33
		ANTIMONY	2.2 U	3.3 U	-
		ARSENIC	2 U	2 U	-
		BARIUM	10.8	12.5	-15
		BERYLLIUM	.2 U	.2 U	-
		CADMIUM	.4 U	.4 U	-
		CALCIUM	446 J	1630	-114
		CHROMIUM	2.1 U	1.1 U	-
		COBALT	.73 J	1.2 J	-49
		COPPER	6.4	3.5 J	59
		IRON	1180 J	350 J	108
		LEAD	2.5 U	1.4 U	-
		MAGNESIUM	269 U	564 J	-71
		MANGANESE	29.3	11.8	85
		MERCURY	.1 U	.1 U	-
		NICKEL	1.7 U	.9 U	-
		POTASSIUM	696 J	579 J	18
		SELENIUM	2.1 U	2.1 U	-
		SILVER	.5 U	.5 U	-
		SODIUM	4860 J	33900 J	-150
		THALLIUM	2.2 U	2.2 U	-
		VANADIUM	2.3 J	1.6 J	36
		ZINC	10.5 U	10 U	-
SPLP INORGANICS	SB01A1204XX SB01A1204XD	ALUMINUM	207 J	881 J	-124
		ANTIMONY	3.8 J	2.2 J	53
		ARSENIC	6.9 J	7.7 J	-11
		BARIUM	14.7	18.2	-21
		BERYLLIUM	.2 U	.2 U	-
		CADMIUM	.4 U	.4 U	-
		CALCIUM	727 J	754 J	-4

**TABLE 5**  
**SUMMARY OF FIELD DUPLICATES**  
**DATA VALIDATION SUMMARY**  
**SPRING 2002 RI SOIL PROGRAM**

**STRATFORD ARMY ENGINE PLANT**

PARAMETER	SAMPLE ID	ANALYTE	RESULT	RESULT	RPD
		CHROMIUM	.96 J	1.4 J	-37
		COBALT	.7 U	.7 U	-
		COPPER	13.9 U	16.8 U	-
		IRON	308 J	998 J	-106
		LEAD	3.2 U	4.2 U	-
		MAGNESIUM	236 U	353 U	-
		MANGANESE	5.3 J	8.3 J	-44
		MERCURY	.34 J	.1 UJ	-
		NICKEL	.9 U	1.7 J	-62
		POTASSIUM	1700	1460	-
		SELENIUM	2.4 J	2.8 J	-15
		SILVER	.5 U	.5 U	-
		SODIUM	11900	13300	-11
		THALLIUM	2.2 U	2.2 U	-
		VANADIUM	34.3	46.4	-30
		ZINC	14.8 U	23.2 U	
SPLP PCB	SB08L1701XX-SB08L1701XD	AROCLOR-1016	.5 U	.5 UJ	-
		AROCLOR-1221	1 U	1 UJ	-
		AROCLOR-1232	.5 U	.5 UJ	-
		AROCLOR-1242	.5 U	.5 UJ	-
		AROCLOR-1248	.5 U	.5 UJ	-
		AROCLOR-1254	.5 U	.5 UJ	-
		AROCLOR-1260	.5 U	.5 UJ	-
SPLP SVOA	SB09B3105XX-SB09B3105XD	1,4-DICHLOROBENZENE	5 J	10 U	-
SVOA SOIL	SB09B3105XX-SB09B3105XD	BENZO(A)ANTHRACENE	770 J	460 J	50
		BENZO(A)PYRENE	620 J	430 J	36
		BENZO(B)FLUORANTHENE	950 J	640 J	39
		BENZO(G,H,I)PERYLENE	290 J	200 J	37
		BENZO(K)FLUORANTHENE	1000 J	700 J	35
		CHRYSENE	860	540 J	46
		DIBENZO(A,H)ANTHRACENE	150 J	86 J	54
		FLUORANTHENE	1500	1100	31
		INDENO(1,2,3-CD)PYRENE	390 J	260 J	40
		PHENANTHRENE	97 J	59 J	49
		PYRENE	1500	1200	22
SVOA SOIL	SB15A1100XX-SB15A1100XD	ACENAPHTHENE	290 J	390 J	-29
		ANTHRACENE	1400	1800	-25
		BENZO(A)ANTHRACENE	4200	5200	-21
		BENZO(A)PYRENE	3300	4400	-29
		BENZO(B)FLUORANTHENE	4800 J	6400 J	-29
		BENZO(G,H,I)PERYLENE	1700	2100	-21
		BENZO(K)FLUORANTHENE	5300 J	7000 J	-28
		BIS(2-ETHYLHEXYL)PHTHALATE	690 U	170 J	-

**TABLE 5**  
**SUMMARY OF FIELD DUPLICATES**  
**DATA VALIDATION SUMMARY**  
**SPRING 2002 RI SOIL PROGRAM**

**STRATFORD ARMY ENGINE PLANT**

PARAMETER	SAMPLE ID	ANALYTE	RESULT		RESULT	RPD
		CARBAZOLE	270	J	370	J -31
		CHRYSENE	3900		4900	-23
		DIBENZO(A,H)ANTHRACENE	820		1000	J -20
		DIBENZOFURAN	250	J	380	J -41
		FLUORANTHENE	7300		10000	-31
		FLUORENE	470	J	650	J -32
		INDENO(1,2,3-CD)PYRENE	2400		3100	-25
		PHENANTHRENE	4800		6100	-24
		PYRENE	8500		11000	-26

Notes:

SPLP results in µg/L; soil results in µg/kg

RPD - relative percent difference

U = not detected at the listed quantitation limit

J = estimated results

- = RPD not calculated for non-detect results

**DATA VALIDATION SUMMARY  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

**1.0 Introduction:**

Data quality assessment and validation was completed on groundwater samples collected at the Stratford Army Engine Plant in Stratford, Connecticut. Samples were collected during April and May 2002. Table 1 includes a listing of samples that are included in the data set. Samples were analyzed by CompuChem of Cary, NC for the following analytical parameters:

<b>Parameter</b>	<b>Analytical Method</b>
TCL VOCs	Method 8260B
Alkalinity	USEPA - 310.1
Dissolved Gases	USEPA RSK-175
Cl + SO <sub>4</sub>	USEPA - 300
COD	USEPA 410.1
NO <sub>2</sub> /NO <sub>3</sub>	USEPA - 300 or 353.2
TOC	USEPA 415.1
Dissolved Mn (field filtered)	Method 6010B

Data quality assessments included a combination of project chemist reviews and formal validation using USEPA guidelines. Data packages for volatile organic compounds (VOCs) using USEPA Method 8260B were validated using USEPA Region I Tier II and Tier III data review guidelines (USEPA, 1996). Tier III validation was completed on one data package (approximately 10 percent of the samples). Tier II validation was completed on the remaining samples. A project chemist review was completed on analytical chemistry data associated with the analysis of the remaining methods. The goal of the chemist review is to provide a general evaluation of quality control data and identify data usability considerations. The project chemist review included evaluations of sample collection and preservation processes, holding time compliance, quality control blanks, field duplicates, and laboratory control sample results, and matrix spike sample results. If necessary, sample results were qualified by the project chemist. Samples were qualified based on chemist professional judgement and procedures identified in USEPA validation guidelines.

**2.0 Volatile Organic Analysis (VOA)**

Volatile analysis was completed using a 25 mL sample purge and trap procedure capable of providing low detection limits. A detection limit of 0.5 µg/L was obtained for the majority of target compounds. A subset of samples collected from known areas of high



VOC concentrations were analyzed using a 5 mL purge, and low detection limits for all compounds were not obtained for these samples.

Many samples in the data set were reanalyzed as dilutions to obtain data for all target compounds within the calibration range of the instrumentation. During validation, results from multiple runs were combined to provide a single set of target compound results for each sample location.

The following information was reviewed during validation:

- \* Sample Collection Documentation and Data Completeness
- \* EDD verification vs. Summary Forms
- \* Preservation and Holding times
- \* GC/MS Performance Check (tuning)
  - Initial Calibration
  - Continuing Calibration
  - QC Blanks
- \* Internal Standard Response
- \* Surrogate Recovery
  - MS/MSD Accuracy and Precision
  - Field Duplicates
- \* Tentatively Identified Compounds (TICs)
- \* Calculation and Identification Checks for Tier III Sample Set
- \* Performance Evaluation Sample

\* - All criteria were met for this parameter. Validation actions for the remaining parameters are discussed below.

#### Quantitation Limit Review

VOCs are the primary chemicals identified in the groundwater at SAEP. A quantitation limit project goal of 1.0 µg/L was established for the majority of Method 8260B VOC target compounds. The laboratory reported data using a quantitation limit of 0.5 µg/L for these compounds. In addition, results detected at concentrations less than 0.5 were reported as estimated J qualified values. During the review of this data set all results reported at concentrations less than 0.5 µg/L were reported at 0.5 U indicating a non-detect at the quantitation limit. Based on the technical judgment of the project chemist compound results less than 0.5 µg/L were interpreted to be unreliable. This is based on the fact that concentrations below 0.5 µg/L are approaching the lower limit of detection, and that QC blank information indicates a high occurrence of low concentration false positive reporting in the data set (see blank discussion below).

#### Calibration

In multiple data packages, initial and continuing calibration did not meet the minimum relative response factor (RRF) for acetone and 2-butanone specified in the USEPA

validation guideline. For these compounds, all positive results were qualified estimated (J), and quantitation limits for non-detects were qualified rejected (R).

In SDG Q2528, carbon disulfide had a percent difference greater than 25% in some of the continuing calibrations. Results for carbon disulfide in associated samples were qualified as estimated (J).

In SDG R2528, carbon disulfide, carbon tetrachloride, bromoform, 1,1,1-trichloroethane, and 1,2-dichloroethane had a percent difference greater validation guideline goals. Results for these target compounds in associated samples were qualified estimated (J).

In SDG T2528, the RRF for 2-hexanone was less than 0.05 in the initial calibration. All positive detects were qualified as estimated (J), all non-detects were rejected (R).

In SDG T2528, carbon disulfide, carbon tetrachloride, bromomethane, 1,1,1-trichloroethane and 1,2-dichloroethane had a percent difference greater than 25% in some of the continuing calibrations. Results were qualified as estimated (J) in the associated samples.

In SDG Y2528, carbon disulfide and trichloroethene had a percent difference greater than 25% in some of the continuing calibrations. Results were qualified as estimated (J) in the associated samples.

In SDG Z2528, response for chloromethane and chloroethane in continuing calibration completed on 5/13/02 exceeded the Region I percent difference limit of 25. Results for these compounds in associated samples were qualified estimated (J).

### Blanks

A review of QC Blanks associated with this data set was completed during validation. QC Blanks included laboratory method blanks and trip blanks. During the review of individual data packages, it became apparent that low concentration detections (less than the method quantitation limit of  $<0.5 \mu\text{g/L}$ ) of many target compounds were being observed. A summary of detections in all blanks analyzed in association with this data set was created to evaluate the general trend in the entire data set. Detections in lab and trip blanks are presented in Table 2. These results indicated that reporting of false positives at concentrations less than the quantitation limit of  $0.5 \mu\text{g/L}$  would be expected to be high. The project objectives identify regulatory standards as low as  $2.0 \mu\text{g/L}$  (for vinyl chloride). Therefore, a judgment was made to qualify all results with values less than  $0.5 \mu\text{g/L}$  as non-detect (U) at the quantitation limit of  $0.5 \mu\text{g/L}$ . In addition, results for 1,1,1-trichloroethane reported at concentrations up to  $2 \mu\text{g/L}$  were qualified non-detect U. This was based on detections in blanks ranging from  $0.09$  to  $2 \mu\text{g/L}$ .

## MS/MSD

Sample WC11S02XX was submitted to the laboratory and analyzed as a MS/MSD in lot E2528. Compounds were within control limits for MS/MSD with the exception of 1,1-DCE and 2-butanone. 2-butanone was above the percent recovery control limit in the matrix spike fraction at 160%. 1,1-DCE was above the laboratory RPD at 25%. 1,1-DCE was qualified estimated (UJ) at the detection limit in sample WC11S02XX. Results for 2-butanone were previously rejected based on an average RRF less than 0.05 in initial calibration.

In SDG Q2528, a matrix spike/matrix spike duplicate was performed on sample PZTF02B02XX. The percent recovery for 2-butanone exceeded the upper recovery limits. Detections for 2-butanone in the unspiked sample are qualified as estimated (J). The RPD for chloromethane, chloroethane, acetone, 2-butanone, 4-methyl-2-pentanone and 2-hexanone exceeded laboratory limits of 25. Results for these analytes in the unspiked sample were qualified as estimated (J).

In SDG Y2528, a matrix spike/matrix spike duplicate was performed on sample WC1S02XX and WC5S02XX. In WC1S02XX, the percent recovery for cis-1,2-dichloroethene, 1,1-dichloroethene and trichloroethene exceeded the upper recovery limits. The RPD for 1,1-dichloroethene and trichloroethene exceeded criteria. Results for these analytes in the unspiked sample were qualified as estimated (J). In WC5S02XX, a low recovery of TCE was reported in the MS (56%), and the sample result was qualified estimated (J).

## Field Duplicate

A field duplicate was performed on sample WC12S02XX. The USEPA validation guidelines establish a goal of 30 for relative percent difference (RPD) in the data set. With the exception of 1,1-dichloroethane, all detected target compounds met this goal indicating good sampling and analytical precision was achieved. Results for 1,2-dichloroethane were qualified estimated J in both the sample and field duplicate.

Detected Compound	WC12S02XD		WC12S02XX		RPD
1,1,1-TRICHLOROETHANE	2300		2200		1
1,1,2-TRICHLOROETHANE	0.5 J		0.5		0
1,1-DICHLOROETHANE	120		130		-2
1,1-DICHLOROETHENE	700		590		4
1,2-DICHLOROETHANE	4		0.5 U		39*
CHLOROFORM	2		2		0
CIS-1,2-DICHLOROETHENE	50 J		58		-4
TETRACHLOROETHENE	3		2		10
TRANS-1,2-DICHLOROETHENE	0.5 J		0.5 J		
TRICHLOROETHENE	120		81		10

UNKNOWN	0.5	NJ	1.5	NJ	
VINYL CHLORIDE	11		8		8

In SDG Q2528, a field duplicate was submitted for sample HESE0107D02XX. The relative percent difference (RPD) for 1,1-dichloroethene, 1,2-dichloroethane, 1,1,1-trichloroethane, and trichloroethene, were greater than 30%. All positive detections for those analytes in the sample and duplicate were qualified as estimated (J).

Compound	HESE0107D02XX		HESE0107D02XD		RPD
1,1,1-TRICHLOROETHANE	1000	J	2100	J	-71
1,1-DICHLOROETHANE	9		9		0
1,1-DICHLOROETHENE	36	J	85	J	-81
1,2-DICHLOROETHANE	0.5	U	1	J	-67
CIS-1,2-DICHLOROETHENE	9		7		25
TOLUENE	7		7		0
TRICHLOROETHENE	140	J	220	J	-44

Sample WC1S02XX was submitted as a field duplicate. The relative percent difference (RPD) for tetrachloroethene was greater than 30%. All positive detections for this analytes in the sample were qualified as estimated (J).

	WC1S02XX		WC1S02XD		RPD
1,1,1-TRICHLOROETHANE	3		3		0
1,1-DICHLOROETHANE	2		2		0
1,1-DICHLOROETHENE	0.6	J	0.6	J	0
CIS-1,2-DICHLOROETHENE	2	J	2	J	0
TETRACHLOROETHENE	2	J	1	J	67
TRICHLOROETHENE	2	J	2	J	0

#### Performance Evaluation Sample (PES)

A performance evaluation sample (PES) for VOC analysis was submitted for analysis along with the groundwater samples from the Spring 2002 sampling round. The PES was obtained from the USEPA Region I quality assurance group in North Chelmsford, Massachusetts. Analytical results were submitted to USEPA Region I for scoring. The PES evaluation report is contained in Attachment 1. All project target compounds present in the PES were detected and reported at a concentration within warning limits indicating good accuracy was obtained. Trace concentrations (<0.2 µg/L) of actone, toluene, and tetrachloroethane were reported as PES contaminants indicating low concentration sample contamination may be present in the data set.

The compound 1,2-dibromoethane was reported as a missed compound; however, this compound is not on the SAEP target compound list. No action was taken during validation.

### Data Reporting

The laboratory reported ‘Laboratory artifacts’ in numerous samples and method blanks. Professional judgment was made during validation to remove all results identified as laboratory artifacts from the final data set.

The following samples were reported with “E” qualified lab values for 1,1-DCE: PX0004I02XX, PZ9D02XD, PZ9D02XX and WC31I02XX. Samples were re-analyzed for other compounds that were above calibration limits. During the reanalyses 1,1-DCE was diluted out of the instrument range. Professional judgment was made to report the E qualified results from the initial analysis and qualify results estimated (J).

### Data Completeness

Sample PZ9902B02XX was collected for VOCs but not analyzed by the laboratory.

## **3.0 Water Chemistry Results**

A review of the laboratory data was completed by the Harding ESE project chemist to provide a general evaluation of data quality of the reported results, and to determine if there were data usability considerations that should be identified. During the chemist review the following parameters were evaluated:

- \* Data Package Narratives
  - Sample Collection and Preservation
- \* Sample Holding Time
  - Blanks
- \* Laboratory Control Sample Results
  - Matrix spike
  - Field Duplicate Results.
- \* Detection Limits
- \* Electronic Tabulated Data

\* = all samples met goals for these parameters

If necessary, results were qualified in accordance with USEPA data validation guidelines (USEPA, 1994). Unless discussed below, results were determined to be usable as reported by the laboratory and no data quality considerations were identified. A summary of the chemist review and explanations of data qualification actions is presented below:

## Result Reporting

In the manganese data set, results with concentrations less than the method quantitation limit were qualified B by the laboratory. This B indicated an estimated concentration. All B qualifiers were changed to J in the final data set.

## Sample Collection and Preservation

Samples in SDG Q2528 were received at the laboratory at a temperature of 7.5 degrees Celsius. Harding ESE was notified and instructed the laboratory to proceed with analyses. It should be noted that several samples at the Site had initial temperatures above 15 degrees Celcius.

Sample PZTF02A02XX for dissolved manganese was received at the laboratory with a pH of 6. A pH of less than 2 is required by the method. The laboratory was notified by Harding ESE to preserve the sample with nitric acid until the proper pH was achieved.

## Field Duplicate

The result for chloride in sample PZ11D02XX was qualified estimated (J) due to difference (53 percent) in the field sample and laboratory duplicate. No other samples were qualified. Good precision was observed for two other field duplicates collected in the data set.

## Blanks

Some blank contamination above the IDL was observed in several of the continuing calibration blanks and in the method blank in SDG V2528 for dissolved manganese. All samples, with the exception of MW102XX, reported dissolved manganese concentrations well above the established action levels. The dissolved manganese result for sample MW102XX was above the IDL but was below the established action levels. The dissolved manganese result for MW102XX was qualified as non-detect (U). No other qualifications were done.

## Matrix Spike/Matrix Spike Duplicate

In SDG V2528, the percent recovery for total nitrogen was 74. This falls slightly below the lab control limits of 75 – 125 percent indicating a possible low bias. The total nitrogen result for the original sample WC21D02XX was qualified estimated (J).

## **4.0 Dissolved Gases**

Analysis for dissolved gases (methane, ethane, and ethene) was completed using a modified USEPA RSK-175 procedure. A chemist review was completed on the data set, and the following parameters were evaluated:

- \* Data Package Narratives
- \* Sample Holding Time
- Blanks
- \* Laboratory Control Sample Results
- Matrix spike
- \* Field Duplicate Results.
- Detection Limits
- \* Electronic Tabulated Data

\* = all samples met goals for these parameters

### Blanks

Laboratory method blanks were analyzed with each data set. Trace concentrations (less than the reporting limits) of target gases were reported in each method blank. Maximum concentration of target compounds in blanks was 0.2 µg/L. The reporting limit was 1.0 µg/L for methane, and 1.5 µg/L for ethene and ethane. The low concentration of gases in blanks is not interpreted to impact the usability of results.

### Detection Limits

The laboratory specified a reporting limit was 1.0 µg/L for methane, and 1.5 µg/L for ethene and ethane. If dissolved gases were detected at concentration less than the reporting limits, concentrations were reported as estimated (J) qualified values in the laboratory data reports. Many of the J qualified results were at similar concentration as the associated method blank. The reliability of the J qualified results was interpreted to be low based on a review of chromatograms and the blank assessment. During the chemist review, results less than reporting limits were raised to the reporting limit and qualified non-detect (U).

### Matrix Spike

Results for dissolved gases (methane and ethene) in sample WC18D102XX, and methane in sample WC25S02XX were qualified estimated (J) based on low matrix spike duplicate recovery (33 – 49 percent). Good recovery was observed in the matrix spike of this same sample. Good recovery was also observed for dissolved gases in all other spiked samples collected during this round indicating that the low recovery was a random error. No additional sample qualification was completed due to these MSD results.

### **Reference:**

U.S. Environmental Protection Agency (USEPA), 1996. "Region 1 EPA-NE Data Validation Guidelines For Evaluating Environmental Analyses"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996

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**LOW CONCENTRATION VOLATILE  
EVALUATION REPORT FOR PES  
PV624**

EPA/CLP No.

NA

Report date: 05/29/2002

Method: 8260B

Contract: NA

Lab name: COMPUCHEM

Labcode: LIBRTY

Case: NA

DAS No.: NA

SDG: V2528

Matrix: WATER

QC Report No.: NA

Lab Sample ID: V2528-14

Date sample received: 04/30/2002

Lab File ID: V2528-14R3B73

Date analyzed: 05/08/2002

Purge Volume: NA (mL)

Dilution Factor: 1.0

GC Column: ZB-624 ID 0.32 (mm) Length: NA (m)

Comments:

Concentration Units: ug/L (ppb)

**PES Compounds Reported**

CAS No.	Compound Name	Concentration	Evaluation	Q
75-00-3	Chloroethane	3	Within Warning Limits	
100-41-4	Ethylbenzene	9	Within Warning Limits	
1330-20-7	Xylene (total)	1	Within Warning Limits	
71-55-6	1,1,1-Trichloroethane	4	Within Warning Limits	
75-27-4	Bromodichloromethane	8	Within Warning Limits	
591-78-6	* 2-Hexanone	6	Within Warning Limits	
79-34-5	1,1,2,2-Tetrachloroethane	12	Within Warning Limits	
100-42-5	Styrene	14	Within Warning Limits	
95-49-8	2-CHLOROTOLUENE	15.28	Spiked TIC Found	NJ

\* Limits have been widened for this compound. The RSD from HBAL data was used for the limits calculation.

**PES Compounds Missed**

CAS No	Compound Name	Concentration	Evaluation	Q
106-93-4	1,2-Dibromoethane		PES Compound Missed	

**PES Contaminants**

CAS No	Compound Name	Concentration	Evaluation	Q
67-64-1	Acetone	1	PES Contaminant	JB
108-88-3	Toluene	0.07	PES Contaminant	J
127-18-4	Tetrachloroethene	0.2	PES Contaminant	J

**Other Compounds Reported**

CAS No	Compound Name	Concentration	Evaluation	Q
557-91-5	Ethane, 1,1-Dibromo-	1.24	Non-spiked Compound	NJ
79-20-9	Acetic Acid, Methyl Ester	0.855	Non-spiked Compound	NJ

LOW CONCENTRATION VOLATILE  
EVALUATION REPORT FOR PES  
PV624

EPA/CLP No.

NA

Report date: 05/29/2002

Method: 8260B

Contract: NA

Lab name: COMPUCEM

Labcode: LIBRTY

Case: NA

DAS No.: NA

SDG: V2528

Matrix: WATER

QC Report No.: NA

Lab Sample ID: V2528-14

Date sample received: 04/30/2002

Lab File ID: V2528-14R3B73

Date analyzed: 05/08/2002

Purge Volume: NA (mL)

Dilution Factor: 1.0

GC Column: ZB-624 ID 0.32 (mm)

Length:

NA (m)

Comments:

Continued from page 1

Concentration Units: ug/L (ppb)

**PES Compounds Not Evaluated**

CAS No	Compound Name	Concentration	Evaluation	Q
79-01-6	Trichloroethene	0.9	Not Evaluated	B
108-05-4	VINYL ACETATE		Not Evaluated	

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
D-13	D1302XX	5/3/02	SW8260B	Z2528-20	Z2528
D-13-1	D131102XX	5/3/02	SW8260B	Z2528-13	Z2528
D-13-2	D132102XX	5/3/02	SW8260B	Z2528-14	Z2528
D-13-3	D133102XX	5/3/02	SW8260B	Z2528-15	Z2528
D-13-4	D134102XX	5/3/02	SW8260B	Z2528-16	Z2528
D-17A	D1702AXX	5/3/02	SW8260B	Z2528-17	Z2528
D-4	D402XX	4/23/02	SW8260B	Q2528-12	Q2528
D-4-1	D41102XX	4/23/02	SW8260B	Q2528-13	Q2528
D-4-2	D42102XX	5/3/02	SW8260B	Z2528-9	Z2528
D-4-3	D43102XX	5/3/02	SW8260B	Z2528-10	Z2528
D-4-4	D44102XX	5/3/02	SW8260B	Z2528-11	Z2528
D-4-5	D4502XX	5/3/02	SW8260B	Z2528-18	Z2528
D-8	D802XX	5/3/02	SW8260B	Z2528-12	Z2528
HESE-01-05D	HESE0105D02XX	4/23/02	SW8260B	Q2528-1	Q2528
HESE-01-06D	HESE0106D02XX	4/22/02	SW8260B	Q2528-3	Q2528
HESE-01-06I	HESE0106I02XX	4/22/02	SW8260B	Q2528-2	Q2528
HESE-01-07D	HESE0107D02XD	4/23/02	SW8260B	Q2528-15	Q2528
HESE-01-07D	HESE0107D02XX	4/23/02	SW8260B	Q2528-4	Q2528
HESE-01-07I	HESE0107I02XX	4/22/02	SW8260B	R2528-1	R2528
HESE-01-08D	HESE0108D02XX	4/24/02	SW8260B	T2528-1	T2528
HESE-01-09D	HESE0109D02XX	4/24/02	SW8260B	T2528-2	T2528
HESE-01-10D	HESE0110D02XX	4/24/02	SW8260B	T2528-3	T2528
HESE-01-12D	HESE0112D02XX	4/23/02	300	Q2528-5	Q2528
HESE-01-12D	HESE0112D02XX	4/23/02	310.1	Q2528-5	Q2528
HESE-01-12D	HESE0112D02XX	4/23/02	415.1	Q2528-5	Q2528
HESE-01-12D	HESE0112D02XX	4/23/02	RSK 175	U2528-1	U2528
HESE-01-12D	HESE0112D02XX	4/23/02	SM 5220D	S2528-1	S2528
HESE-01-12D	HESE0112D02XX	4/23/02	SW6010B	Q2528-5	Q2528
HESE-01-12D	HESE0112D02XX	4/23/02	SW8260B	R2528-2	R2528
HESE-01-12I	HESE0112I02XX	4/23/02	300	Q2528-6	Q2528
HESE-01-12I	HESE0112I02XX	4/23/02	310.1	Q2528-6	Q2528
HESE-01-12I	HESE0112I02XX	4/23/02	415.1	Q2528-6	Q2528
HESE-01-12I	HESE0112I02XX	4/23/02	RSK 175	U2528-2	U2528
HESE-01-12I	HESE0112I02XX	4/23/02	SM 5220D	S2528-2	S2528
HESE-01-12I	HESE0112I02XX	4/23/02	SW6010B	Q2528-6	Q2528
HESE-01-12I	HESE0112I02XX	4/23/02	SW8260B	R2528-3	R2528
HESE-01-14I	HESE0114I02XX	4/23/02	300	Q2528-7	Q2528
HESE-01-14I	HESE0114I02XX	4/23/02	310.1	Q2528-7	Q2528
HESE-01-14I	HESE0114I02XX	4/23/02	415.1	Q2528-7	Q2528
HESE-01-14I	HESE0114I02XX	4/23/02	RSK 175	U2528-3	U2528
HESE-01-14I	HESE0114I02XX	4/23/02	SM 5220D	S2528-3	S2528
HESE-01-14I	HESE0114I02XX	4/23/02	SW6010B	Q2528-7	Q2528
HESE-01-14I	HESE0114I02XX	4/23/02	SW8260B	R2528-4	R2528
HESE-01-15I	HESE0115I02XX	4/24/02	300	Q2528-16	Q2528
HESE-01-15I	HESE0115I02XX	4/24/02	310.1	Q2528-16	Q2528
HESE-01-15I	HESE0115I02XX	4/24/02	415.1	Q2528-16	Q2528
HESE-01-15I	HESE0115I02XX	4/24/02	RSK 175	U2528-8	U2528
HESE-01-15I	HESE0115I02XX	4/24/02	SM 5220D	S2528-8	S2528
HESE-01-15I	HESE0115I02XX	4/24/02	SW6010B	Q2528-16	Q2528
HESE-01-15I	HESE0115I02XX	4/24/02	SW8260B	R2528-5	R2528
HESE-01-16I	HESE0116I02XX	4/25/02	300	T2528-4	T2528
HESE-01-16I	HESE0116I02XX	4/25/02	310.1	T2528-4	T2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
HESE-01-16I	HESE0116I02XX	4/25/02	415.1	T2528-4	T2528
HESE-01-16I	HESE0116I02XX	4/25/02	RSK 175	U2528-13	U2528
HESE-01-16I	HESE0116I02XX	4/25/02	SM 5220D	S2528-12	S2528
HESE-01-16I	HESE0116I02XX	4/25/02	SW6010B	T2528-4	T2528
HESE-01-16I	HESE0116I02XX	4/25/02	SW8260B	R2528-6	R2528
HESE-01-17D	HESE0117D02XX	4/25/02	300	T2528-6	T2528
HESE-01-17D	HESE0117D02XX	4/25/02	310.1	T2528-6	T2528
HESE-01-17D	HESE0117D02XX	4/25/02	415.1	T2528-6	T2528
HESE-01-17D	HESE0117D02XX	4/25/02	RSK 175	U2528-15	U2528
HESE-01-17D	HESE0117D02XX	4/25/02	SM 5220D	S2528-14	S2528
HESE-01-17D	HESE0117D02XX	4/25/02	SW6010B	T2528-6	T2528
HESE-01-17D	HESE0117D02XX	4/25/02	SW8260B	R2528-7	R2528
HESE-01-17I	HESE0117I02XX	4/25/02	300	T2528-5	T2528
HESE-01-17I	HESE0117I02XX	4/25/02	310.1	T2528-5	T2528
HESE-01-17I	HESE0117I02XX	4/25/02	415.1	T2528-5	T2528
HESE-01-17I	HESE0117I02XX	4/25/02	RSK 175	U2528-14	U2528
HESE-01-17I	HESE0117I02XX	4/25/02	SM 5220D	S2528-13	S2528
HESE-01-17I	HESE0117I02XX	4/25/02	SW6010B	T2528-5	T2528
HESE-01-17I	HESE0117I02XX	4/25/02	SW8260B	T2528-5	T2528
HESE-01-18D	HESE0118D02XX	4/25/02	300	T2528-7	T2528
HESE-01-18D	HESE0118D02XX	4/25/02	310.1	T2528-7	T2528
HESE-01-18D	HESE0118D02XX	4/25/02	415.1	T2528-7	T2528
HESE-01-18D	HESE0118D02XX	4/25/02	RSK 175	U2528-16	U2528
HESE-01-18D	HESE0118D02XX	4/25/02	SM 5220D	S2528-15	S2528
HESE-01-18D	HESE0118D02XX	4/25/02	SW6010B	T2528-7	T2528
HESE-01-18D	HESE0118D02XX	4/25/02	SW8260B	T2528-7	T2528
MW-1	MW102XX	4/26/02	300	V2528-1	V2528
MW-1	MW102XX	4/26/02	310.1	V2528-1	V2528
MW-1	MW102XX	4/26/02	353.2	V2528-1	V2528
MW-1	MW102XX	4/26/02	415.1	V2528-1	V2528
MW-1	MW102XX	4/26/02	RSK 175	V2528-1	V2528
MW-1	MW102XX	4/26/02	SM 5220D	W2528-1	W2528
MW-1	MW102XX	4/26/02	SW6010B	V2528-1	V2528
MW-1	MW102XX	4/26/02	SW8260B	V2528-1	V2528
MW-2	MW202XX	4/26/02	300	V2528-2	V2528
MW-2	MW202XX	4/26/02	310.1	V2528-2	V2528
MW-2	MW202XX	4/26/02	353.2	V2528-2	V2528
MW-2	MW202XX	4/26/02	415.1	V2528-2	V2528
MW-2	MW202XX	4/26/02	RSK 175	V2528-2	V2528
MW-2	MW202XX	4/26/02	SM 5220D	W2528-2	W2528
MW-2	MW202XX	4/26/02	SW6010B	V2528-2	V2528
MW-2	MW202XX	4/26/02	SW8260B	V2528-2	V2528
MW-4	MW402XX	4/25/02	300	T2528-8	T2528
MW-4	MW402XX	4/25/02	310.1	T2528-8	T2528
MW-4	MW402XX	4/25/02	415.1	T2528-8	T2528
MW-4	MW402XX	4/25/02	RSK 175	U2528-17	U2528
MW-4	MW402XX	4/25/02	SM 5220D	S2528-16	S2528
MW-4	MW402XX	4/25/02	SW6010B	T2528-8	T2528
MW-4	MW402XX	4/25/02	SW8260B	T2528-8	T2528
MWCD-9901A	MWCD9901A02XX	5/1/02	300	Y2528-11	Y2528
MWCD-9901A	MWCD9901A02XX	5/1/02	310.1	Y2528-11	Y2528
MWCD-9901A	MWCD9901A02XX	5/1/02	353.2	Y2528-11	Y2528

**ATTACHMENT 1**  
**PERFORMANCE EVALUATION SAMPLE REPORT**

**DATA VALIDATION SUMMARY**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
MWCD-9901A	MWCD9901A02XX	5/1/02	415.1	Y2528-11	Y2528
MWCD-9901A	MWCD9901A02XX	5/1/02	RSK 175	Y2528-11	Y2528
MWCD-9901A	MWCD9901A02XX	5/1/02	SM 5220D	A2528-8	A2528
MWCD-9901A	MWCD9901A02XX	5/1/02	SW6010B	Y2528-11	Y2528
MWCD-9901A	MWCD9901A02XX	5/1/02	SW8260B	Y2528-11	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	300	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	310.1	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	353.2	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	415.1	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	RSK 175	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	SM 5220D	A2528-9	A2528
MWCD-9901B	MWCD9901B02XX	5/1/02	SW6010B	Y2528-12	Y2528
MWCD-9901B	MWCD9901B02XX	5/1/02	SW8260B	Y2528-12	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	300	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	310.1	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	353.2	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	415.1	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	RSK 175	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	SM 5220D	A2528-10	A2528
MWCD-9902A	MWCD9902A02XX	5/1/02	SW6010B	Y2528-13	Y2528
MWCD-9902A	MWCD9902A02XX	5/1/02	SW8260B	Y2528-13	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	300	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	310.1	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	353.2	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	415.1	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	RSK 175	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	SM 5220D	A2528-15	A2528
MWCD-9902B	MWCD9902B02XX	5/1/02	SW6010B	Y2528-14	Y2528
MWCD-9902B	MWCD9902B02XX	5/1/02	SW8260B	Y2528-14	Y2528
PE Sample -1	PV624	4/29/02	SW8260B	V2528-14	V2528
PZ-11D	PZ11D02XX	5/2/02	300	B2528-1	B2528
PZ-11D	PZ11D02XX	5/2/02	310.1	B2528-1	B2528
PZ-11D	PZ11D02XX	5/2/02	415.1	B2528-1	B2528
PZ-11D	PZ11D02XX	5/2/02	RSK 175	B2528-1	B2528
PZ-11D	PZ11D02XX	5/2/02	SM 5220D	C2528-1	C2528
PZ-11D	PZ11D02XX	5/2/02	SW6010B	B2528-1	B2528
PZ-11D	PZ11D02XX	5/2/02	SW8260B	B2528-1	B2528
PZ-13D	PZ13D02XX	5/2/02	300	B2528-4	B2528
PZ-13D	PZ13D02XX	5/2/02	310.1	B2528-4	B2528
PZ-13D	PZ13D02XX	5/2/02	415.1	B2528-4	B2528
PZ-13D	PZ13D02XX	5/2/02	RSK 175	B2528-4	B2528
PZ-13D	PZ13D02XX	5/2/02	SM 5220D	C2528-5	C2528
PZ-13D	PZ13D02XX	5/2/02	SW6010B	B2528-4	B2528
PZ-13D	PZ13D02XX	5/2/02	SW8260B	B2528-4	B2528
PZ-16D	PZ16D02XX	4/29/02	300	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	310.1	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	353.2	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	415.1	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	RSK 175	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	SM 5220D	W2528-7	W2528
PZ-16D	PZ16D02XX	4/29/02	SW6010B	V2528-8	V2528
PZ-16D	PZ16D02XX	4/29/02	SW8260B	V2528-8	V2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
PZ-17D	PZ17D02XX	4/26/02	300	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	310.1	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	353.2	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	415.1	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	RSK 175	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	SM 5220D	W2528-3	W2528
PZ-17D	PZ17D02XX	4/26/02	SW6010B	V2528-3	V2528
PZ-17D	PZ17D02XX	4/26/02	SW8260B	V2528-3	V2528
PZ-1D	PZ1D02XX	5/1/02	300	Y2528-4	Y2528
PZ-1D	PZ1D02XX	5/1/02	310.1	Y2528-4	Y2528
PZ-1D	PZ1D02XX	5/1/02	415.1	Y2528-4	Y2528
PZ-1D	PZ1D02XX	5/1/02	RSK 175	Y2528-4	Y2528
PZ-1D	PZ1D02XX	5/1/02	SM 5220D	A2528-1	A2528
PZ-1D	PZ1D02XX	5/1/02	SW6010B	Y2528-4	Y2528
PZ-1D	PZ1D02XX	5/1/02	SW8260B	Y2528-4	Y2528
PZ-4D	PZ4D02XX	4/25/02	300	T2528-11	T2528
PZ-4D	PZ4D02XX	4/25/02	310.1	T2528-11	T2528
PZ-4D	PZ4D02XX	4/25/02	415.1	T2528-11	T2528
PZ-4D	PZ4D02XX	4/25/02	RSK 175	U2528-20	U2528
PZ-4D	PZ4D02XX	4/25/02	SM 5220D	S2528-19	S2528
PZ-4D	PZ4D02XX	4/25/02	SW6010B	T2528-11	T2528
PZ-4D	PZ4D02XX	4/25/02	SW8260B	T2528-11	T2528
PZ-5D	PZ5D02XX	5/1/02	300	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	310.1	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	353.2	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	415.1	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	RSK 175	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	SM 5220D	A2528-11	A2528
PZ-5D	PZ5D02XX	5/1/02	SW6010B	Y2528-15	Y2528
PZ-5D	PZ5D02XX	5/1/02	SW8260B	Y2528-15	Y2528
PZ-8D	PZ8D02XX	5/3/02	300	Z2528-2	Z2528
PZ-8D	PZ8D02XX	5/3/02	310.1	Z2528-2	Z2528
PZ-8D	PZ8D02XX	5/3/02	415.1	Z2528-2	Z2528
PZ-8D	PZ8D02XX	5/3/02	RSK 175	Z2528-2	Z2528
PZ-8D	PZ8D02XX	5/3/02	SM 5220D	C2528-11	C2528
PZ-8D	PZ8D02XX	5/3/02	SW6010B	Z2528-2	Z2528
PZ-8D	PZ8D02XX	5/3/02	SW8260B	Z2528-2	Z2528
PZ-99-02B	PZ9902B02XX	5/2/02	300	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	310.1	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	353.2	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	415.1	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	RSK 175	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	SM 5220D	C2528-2	C2528
PZ-99-02B	PZ9902B02XX	5/2/02	SW6010B	Y2528-20	Y2528
PZ-99-02B	PZ9902B02XX	5/2/02	SW8260B	Y2528-20	Y2528
PZ-99-03	PZ990302XX	5/2/02	300	B2528-2	B2528
PZ-99-03	PZ990302XX	5/2/02	310.1	B2528-2	B2528
PZ-99-03	PZ990302XX	5/2/02	415.1	B2528-2	B2528
PZ-99-03	PZ990302XX	5/2/02	RSK 175	B2528-2	B2528
PZ-99-03	PZ990302XX	5/2/02	SM 5220D	C2528-3	C2528
PZ-99-03	PZ990302XX	5/2/02	SW6010B	B2528-2	B2528
PZ-99-03	PZ990302XX	5/2/02	SW8260B	B2528-2	B2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
PZ-99-04I	PZ9904I02XX	5/2/02	300	B2528-3	B2528
PZ-99-04I	PZ9904I02XX	5/2/02	310.1	B2528-3	B2528
PZ-99-04I	PZ9904I02XX	5/2/02	415.1	B2528-3	B2528
PZ-99-04I	PZ9904I02XX	5/2/02	RSK 175	B2528-3	B2528
PZ-99-04I	PZ9904I02XX	5/2/02	SM 5220D	C2528-4	C2528
PZ-99-04I	PZ9904I02XX	5/2/02	SW6010B	B2528-3	B2528
PZ-99-04I	PZ9904I02XX	5/2/02	SW8260B	B2528-3	B2528
PZ-9D	PZ9D02XD	5/6/02	300	B2528-15	B2528
PZ-9D	PZ9D02XD	5/6/02	310.1	B2528-15	B2528
PZ-9D	PZ9D02XD	5/6/02	415.1	B2528-15	B2528
PZ-9D	PZ9D02XD	5/6/02	RSK 175	B2528-15	B2528
PZ-9D	PZ9D02XD	5/6/02	SM 5220D	D2528-4	D2528
PZ-9D	PZ9D02XD	5/6/02	SW6010B	B2528-15	B2528
PZ-9D	PZ9D02XD	5/6/02	SW8260B	B2528-15	B2528
PZ-9D	PZ9D02XX	5/6/02	300	B2528-14	B2528
PZ-9D	PZ9D02XX	5/6/02	310.1	B2528-14	B2528
PZ-9D	PZ9D02XX	5/6/02	415.1	B2528-14	B2528
PZ-9D	PZ9D02XX	5/6/02	RSK 175	B2528-14	B2528
PZ-9D	PZ9D02XX	5/6/02	SM 5220D	D2528-3	D2528
PZ-9D	PZ9D02XX	5/6/02	SW6010B	B2528-14	B2528
PZ-9D	PZ9D02XX	5/6/02	SW8260B	B2528-14	B2528
PZ-TF-01B	PZTF01B02XX	4/23/02	300	Q2528-8	Q2528
PZ-TF-01B	PZTF01B02XX	4/23/02	310.1	Q2528-8	Q2528
PZ-TF-01B	PZTF01B02XX	4/23/02	415.1	Q2528-8	Q2528
PZ-TF-01B	PZTF01B02XX	4/23/02	RSK 175	U2528-4	U2528
PZ-TF-01B	PZTF01B02XX	4/23/02	SM 5220D	S2528-4	S2528
PZ-TF-01B	PZTF01B02XX	4/23/02	SW6010B	Q2528-8	Q2528
PZ-TF-01B	PZTF01B02XX	4/23/02	SW8260B	Q2528-8	Q2528
PZ-TF-02A	PZTF02A02XX	4/24/02	300	Q2528-17	Q2528
PZ-TF-02A	PZTF02A02XX	4/24/02	310.1	Q2528-17	Q2528
PZ-TF-02A	PZTF02A02XX	4/24/02	415.1	Q2528-17	Q2528
PZ-TF-02A	PZTF02A02XX	4/24/02	RSK 175	U2528-9	U2528
PZ-TF-02A	PZTF02A02XX	4/24/02	SM 5220D	S2528-9	S2528
PZ-TF-02A	PZTF02A02XX	4/24/02	SW6010B	Q2528-17	Q2528
PZ-TF-02A	PZTF02A02XX	4/24/02	SW8260B	Q2528-17	Q2528
PZ-TF-02B	PZTF02B02XX	4/24/02	300	Q2528-18	Q2528
PZ-TF-02B	PZTF02B02XX	4/24/02	310.1	Q2528-18	Q2528
PZ-TF-02B	PZTF02B02XX	4/24/02	415.1	Q2528-18	Q2528
PZ-TF-02B	PZTF02B02XX	4/24/02	RSK 175	U2528-10	U2528
PZ-TF-02B	PZTF02B02XX	4/24/02	SM 5220D	S2528-10	S2528
PZ-TF-02B	PZTF02B02XX	4/24/02	SW6010B	Q2528-18	Q2528
PZ-TF-02B	PZTF02B02XX	4/24/02	SW8260B	Q2528-18	Q2528
PZ-TF-03A	PZTF03A02XX	5/1/02	300	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	310.1	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	353.2	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	415.1	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	RSK 175	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	SM 5220D	A2528-4	A2528
PZ-TF-03A	PZTF03A02XX	5/1/02	SW6010B	Y2528-7	Y2528
PZ-TF-03A	PZTF03A02XX	5/1/02	SW8260B	Y2528-7	Y2528
PZ-TF-03B	PZTF03B02XX	4/24/02	300	Q2528-20	Q2528
PZ-TF-03B	PZTF03B02XX	4/24/02	310.1	Q2528-20	Q2528



TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
PZ-TF-03B	PZTF03B02XX	4/24/02	415.1	Q2528-20	Q2528
PZ-TF-03B	PZTF03B02XX	4/24/02	RSK 175	U2528-11	U2528
PZ-TF-03B	PZTF03B02XX	4/24/02	SM 5220D	S2528-11	S2528
PZ-TF-03B	PZTF03B02XX	4/24/02	SW6010B	Q2528-20	Q2528
PZ-TF-03B	PZTF03B02XX	4/24/02	SW8260B	Q2528-20	Q2528
PZ-TF-04B	PZTF04B02XX	4/23/02	300	Q2528-9	Q2528
PZ-TF-04B	PZTF04B02XX	4/23/02	310.1	Q2528-9	Q2528
PZ-TF-04B	PZTF04B02XX	4/23/02	415.1	Q2528-9	Q2528
PZ-TF-04B	PZTF04B02XX	4/23/02	RSK 175	U2528-5	U2528
PZ-TF-04B	PZTF04B02XX	4/23/02	SM 5220D	S2528-5	S2528
PZ-TF-04B	PZTF04B02XX	4/23/02	SW6010B	Q2528-9	Q2528
PZ-TF-04B	PZTF04B02XX	4/23/02	SW8260B	Q2528-9	Q2528
PZ-TF-05A	PZTF05A02XX	5/1/02	300	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	310.1	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	353.2	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	415.1	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	RSK 175	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	SM 5220D	A2528-5	A2528
PZ-TF-05A	PZTF05A02XX	5/1/02	SW6010B	Y2528-8	Y2528
PZ-TF-05A	PZTF05A02XX	5/1/02	SW8260B	Y2528-8	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	300	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	310.1	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	353.2	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	415.1	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	RSK 175	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	SM 5220D	A2528-13	A2528
PZ-TF-05B	PZTF05B02XD	5/1/02	SW6010B	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XD	5/1/02	SW8260B	Y2528-17	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	300	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	310.1	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	353.2	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	415.1	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	RSK 175	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	SM 5220D	A2528-6	A2528
PZ-TF-05B	PZTF05B02XX	5/1/02	SW6010B	Y2528-9	Y2528
PZ-TF-05B	PZTF05B02XX	5/1/02	SW8260B	Y2528-9	Y2528
PZ-TF-06B	PZTF06B02XX	4/23/02	300	Q2528-10	Q2528
PZ-TF-06B	PZTF06B02XX	4/23/02	310.1	Q2528-10	Q2528
PZ-TF-06B	PZTF06B02XX	4/23/02	415.1	Q2528-10	Q2528
PZ-TF-06B	PZTF06B02XX	4/23/02	RSK 175	U2528-6	U2528
PZ-TF-06B	PZTF06B02XX	4/23/02	SM 5220D	S2528-6	S2528
PZ-TF-06B	PZTF06B02XX	4/23/02	SW6010B	Q2528-10	Q2528
PZ-TF-06B	PZTF06B02XX	4/23/02	SW8260B	Q2528-10	Q2528
PZ-TF-07A	PZTF07A02XX	5/1/02	300	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	310.1	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	353.2	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	415.1	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	RSK 175	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	SM 5220D	A2528-7	A2528
PZ-TF-07A	PZTF07A02XX	5/1/02	SW6010B	Y2528-10	Y2528
PZ-TF-07A	PZTF07A02XX	5/1/02	SW8260B	Y2528-10	Y2528
PZ-TF-07B	PZTF07B02XX	4/30/02	300	V2528-15	V2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
PZ-TF-07B	PZTF07B02XX	4/30/02	310.1	V2528-15	V2528
PZ-TF-07B	PZTF07B02XX	4/30/02	353.2	V2528-15	V2528
PZ-TF-07B	PZTF07B02XX	4/30/02	415.1	V2528-15	V2528
PZ-TF-07B	PZTF07B02XX	4/30/02	RSK 175	V2528-15	V2528
PZ-TF-07B	PZTF07B02XX	4/30/02	SM 5220D	W2528-12	W2528
PZ-TF-07B	PZTF07B02XX	4/30/02	SW6010B	V2528-15	V2528
PZ-TF-07B	PZTF07B02XX	4/30/02	SW8260B	V2528-15	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	300	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	310.1	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	353.2	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	415.1	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	RSK 175	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	SM 5220D	W2528-13	W2528
PZ-TF-08B	PZTF08B02XX	4/30/02	SW6010B	V2528-16	V2528
PZ-TF-08B	PZTF08B02XX	4/30/02	SW8260B	V2528-16	V2528
PZ-TF-09A	PZTF09A02XX	5/8/02	300	E2528-6	E2528
PZ-TF-09A	PZTF09A02XX	5/8/02	310.1	E2528-6	E2528
PZ-TF-09A	PZTF09A02XX	5/8/02	415.1	E2528-6	E2528
PZ-TF-09A	PZTF09A02XX	5/8/02	RSK 175	E2528-6	E2528
PZ-TF-09A	PZTF09A02XX	5/8/02	SM 5220D	D2528-14	D2528
PZ-TF-09A	PZTF09A02XX	5/8/02	SW6010B	E2528-6	E2528
PZ-TF-09A	PZTF09A02XX	5/8/02	SW8260B	E2528-6	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	300	E2528-5	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	310.1	E2528-5	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	415.1	E2528-5	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	RSK 175	E2528-5	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	SM 5220D	D2528-13	D2528
PZ-TF-09B	PZTF09B02XX	5/8/02	SW6010B	E2528-5	E2528
PZ-TF-09B	PZTF09B02XX	5/8/02	SW8260B	E2528-5	E2528
PZ-TF-10B	PZTF10B02XX	4/23/02	300	Q2528-11	Q2528
PZ-TF-10B	PZTF10B02XX	4/23/02	310.1	Q2528-11	Q2528
PZ-TF-10B	PZTF10B02XX	4/23/02	415.1	Q2528-11	Q2528
PZ-TF-10B	PZTF10B02XX	4/23/02	RSK 175	U2528-7	U2528
PZ-TF-10B	PZTF10B02XX	4/23/02	SM 5220D	S2528-7	S2528
PZ-TF-10B	PZTF10B02XX	4/23/02	SW6010B	Q2528-11	Q2528
PZ-TF-10B	PZTF10B02XX	4/23/02	SW8260B	Q2528-11	Q2528
TBK-02-001	TBK02001	4/23/02	SW8260B	Q2528-14	Q2528
TBK-02-002	TBK02002	4/24/02	SW8260B	Q2528-19	Q2528
TBK-02-003	TBK02003	4/25/02	SW8260B	T2528-12	T2528
TBK-02-004	TBK02004	4/26/02	SW8260B	V2528-7	V2528
TBK-02-005	TBK02005	4/29/02	SW8260B	V2528-13	V2528
TBK-02-006	TBK02006	4/30/02	SW8260B	Y2528-3	Y2528
TBK-02-007	TBK02007	5/1/02	SW8260B	Y2528-18	Y2528
TBK-02-008	TBK02008	5/2/02	SW8260B	B2528-10	B2528
TBK-02-009	TBK02009	5/3/02	SW8260B	Z2528-19	Z2528
TBK-02-010	TBK02010	5/6/02	SW8260B	B2528-21	B2528
TBK-02-011	TBK02011	5/7/02	SW8260B	E2528-4	E2528
TBK-02-012	TBK02012	5/8/02	SW8260B	E2528-7	E2528
WC-10S	WC10S02XX	4/30/02	300	Y2528-1	Y2528
WC-10S	WC10S02XX	4/30/02	310.1	Y2528-1	Y2528
WC-10S	WC10S02XX	4/30/02	415.1	Y2528-1	Y2528
WC-10S	WC10S02XX	4/30/02	RSK 175	Y2528-1	Y2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC-10S	WC10S02XX	4/30/02	SM 5220D	W2528-14	W2528
WC-10S	WC10S02XX	4/30/02	SW6010B	Y2528-1	Y2528
WC-10S	WC10S02XX	4/30/02	SW8260B	Y2528-1	Y2528
WC1-1S	WC11S02XX	5/7/02	300	E2528-2	E2528
WC1-1S	WC11S02XX	5/7/02	310.1	E2528-2	E2528
WC1-1S	WC11S02XX	5/7/02	415.1	E2528-2	E2528
WC1-1S	WC11S02XX	5/7/02	RSK 175	E2528-2	E2528
WC1-1S	WC11S02XX	5/7/02	SM 5220D	D2528-11	D2528
WC1-1S	WC11S02XX	5/7/02	SW6010B	E2528-2	E2528
WC1-1S	WC11S02XX	5/7/02	SW8260B	E2528-2	E2528
WC-12S	WC12S02XD	5/3/02	300	Z2528-8	Z2528
WC-12S	WC12S02XD	5/3/02	310.1	Z2528-8	Z2528
WC-12S	WC12S02XD	5/3/02	415.1	Z2528-8	Z2528
WC-12S	WC12S02XD	5/3/02	RSK 175	Z2528-8	Z2528
WC-12S	WC12S02XD	5/3/02	SM 5220D	C2528-17	C2528
WC-12S	WC12S02XD	5/3/02	SW6010B	Z2528-8	Z2528
WC-12S	WC12S02XD	5/3/02	SW8260B	Z2528-8	Z2528
WC-12S	WC12S02XX	5/3/02	300	Z2528-5	Z2528
WC-12S	WC12S02XX	5/3/02	310.1	Z2528-5	Z2528
WC-12S	WC12S02XX	5/3/02	415.1	Z2528-5	Z2528
WC-12S	WC12S02XX	5/3/02	RSK 175	Z2528-5	Z2528
WC-12S	WC12S02XX	5/3/02	SM 5220D	C2528-14	C2528
WC-12S	WC12S02XX	5/3/02	SW6010B	Z2528-5	Z2528
WC-12S	WC12S02XX	5/3/02	SW8260B	Z2528-5	Z2528
WC-14S	WC14S02XX	4/29/02	300	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	310.1	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	353.2	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	415.1	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	RSK 175	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	SM 5220D	W2528-8	W2528
WC-14S	WC14S02XX	4/29/02	SW6010B	V2528-9	V2528
WC-14S	WC14S02XX	4/29/02	SW8260B	V2528-9	V2528
WC-18D1	WC18D102XX	5/7/02	300	E2528-1	E2528
WC-18D1	WC18D102XX	5/7/02	310.1	E2528-1	E2528
WC-18D1	WC18D102XX	5/7/02	415.1	E2528-1	E2528
WC-18D1	WC18D102XX	5/7/02	RSK 175	E2528-1	E2528
WC-18D1	WC18D102XX	5/7/02	SM 5220D	D2528-10	D2528
WC-18D1	WC18D102XX	5/7/02	SW6010B	E2528-1	E2528
WC-18D1	WC18D102XX	5/7/02	SW8260B	E2528-1	E2528
WC-19D1	WC19D102XX	4/30/02	300	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	310.1	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	353.2	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	415.1	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	RSK 175	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	SM 5220D	W2528-15	W2528
WC-19D1	WC19D102XX	4/30/02	SW6010B	V2528-17	V2528
WC-19D1	WC19D102XX	4/30/02	SW8260B	V2528-17	V2528
WC-19S	WC19S02XX	4/30/02	300	V2528-18	V2528
WC-19S	WC19S02XX	4/30/02	310.1	V2528-18	V2528
WC-19S	WC19S02XX	4/30/02	353.2	V2528-18	V2528
WC-19S	WC19S02XX	4/30/02	415.1	V2528-18	V2528
WC-19S	WC19S02XX	4/30/02	RSK 175	V2528-18	V2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC-19S	WC19S02XX	4/30/02	SM 5220D	W2528-16	W2528
WC-19S	WC19S02XX	4/30/02	SW6010B	V2528-18	V2528
WC-19S	WC19S02XX	4/30/02	SW8260B	V2528-18	V2528
WC-1S	WC1S02XD	5/1/02	RSK 175	Y2528-16	Y2528
WC-1S	WC1S02XD	5/1/02	SW8260B	Y2528-16	Y2528
WC-1S	WC1S02XX	5/1/02	300	Y2528-5	Y2528
WC-1S	WC1S02XX	5/1/02	310.1	Y2528-5	Y2528
WC-1S	WC1S02XX	5/1/02	415.1	Y2528-5	Y2528
WC-1S	WC1S02XX	5/1/02	RSK 175	Y2528-5	Y2528
WC-1S	WC1S02XX	5/1/02	SM 5220D	A2528-2	A2528
WC-1S	WC1S02XX	5/1/02	SW6010B	Y2528-5	Y2528
WC-1S	WC1S02XX	5/1/02	SW8260B	Y2528-5	Y2528
WC2-1D	WC21D02XX	4/26/02	300	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	310.1	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	353.2	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	415.1	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	RSK 175	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	SM 5220D	W2528-4	W2528
WC2-1D	WC21D02XX	4/26/02	SW6010B	V2528-4	V2528
WC2-1D	WC21D02XX	4/26/02	SW8260B	V2528-4	V2528
WC2-1I	WC21I02XX	4/26/02	300	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	310.1	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	353.2	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	415.1	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	RSK 175	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	SM 5220D	W2528-5	W2528
WC2-1I	WC21I02XX	4/26/02	SW6010B	V2528-5	V2528
WC2-1I	WC21I02XX	4/26/02	SW8260B	V2528-5	V2528
WC2-1S	WC21S02XX	4/29/02	300	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	310.1	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	353.2	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	415.1	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	RSK 175	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	SM 5220D	W2528-9	W2528
WC2-1S	WC21S02XX	4/29/02	SW6010B	V2528-10	V2528
WC2-1S	WC21S02XX	4/29/02	SW8260B	V2528-10	V2528
WC2-2D	WC22D02XX	5/1/02	300	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	310.1	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	353.2	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	415.1	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	RSK 175	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	SM 5220D	A2528-3	A2528
WC2-2D	WC22D02XX	5/1/02	SW6010B	Y2528-6	Y2528
WC2-2D	WC22D02XX	5/1/02	SW8260B	Y2528-6	Y2528
WC2-2I	WC22I02XX	5/3/02	300	Z2528-6	Z2528
WC2-2I	WC22I02XX	5/3/02	310.1	Z2528-6	Z2528
WC2-2I	WC22I02XX	5/3/02	415.1	Z2528-6	Z2528
WC2-2I	WC22I02XX	5/3/02	RSK 175	Z2528-6	Z2528
WC2-2I	WC22I02XX	5/3/02	SM 5220D	C2528-15	C2528
WC2-2I	WC22I02XX	5/3/02	SW6010B	Z2528-6	Z2528
WC2-2I	WC22I02XX	5/3/02	SW8260B	Z2528-6	Z2528
WC2-3D	WC23D02XX	5/3/02	300	Z2528-3	Z2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC2-3D	WC23D02XX	5/3/02	310.1	Z2528-3	Z2528
WC2-3D	WC23D02XX	5/3/02	415.1	Z2528-3	Z2528
WC2-3D	WC23D02XX	5/3/02	RSK 175	Z2528-3	Z2528
WC2-3D	WC23D02XX	5/3/02	SM 5220D	C2528-12	C2528
WC2-3D	WC23D02XX	5/3/02	SW6010B	Z2528-3	Z2528
WC2-3D	WC23D02XX	5/3/02	SW8260B	Z2528-3	Z2528
WC2-3I	WC23I02XX	5/6/02	300	B2528-18	B2528
WC2-3I	WC23I02XX	5/6/02	310.1	B2528-18	B2528
WC2-3I	WC23I02XX	5/6/02	415.1	B2528-18	B2528
WC2-3I	WC23I02XX	5/6/02	RSK 175	B2528-18	B2528
WC2-3I	WC23I02XX	5/6/02	SM 5220D	D2528-7	D2528
WC2-3I	WC23I02XX	5/6/02	SW6010B	B2528-18	B2528
WC2-3I	WC23I02XX	5/6/02	SW8260B	B2528-18	B2528
WC2-3S	WC23S02XX	5/3/02	300	Z2528-7	Z2528
WC2-3S	WC23S02XX	5/3/02	310.1	Z2528-7	Z2528
WC2-3S	WC23S02XX	5/3/02	415.1	Z2528-7	Z2528
WC2-3S	WC23S02XX	5/3/02	RSK 175	Z2528-7	Z2528
WC2-3S	WC23S02XX	5/3/02	SM 5220D	C2528-16	C2528
WC2-3S	WC23S02XX	5/3/02	SW6010B	Z2528-7	Z2528
WC2-3S	WC23S02XX	5/3/02	SW8260B	Z2528-7	Z2528
WC2-4I	WC24I02XX	4/29/02	300	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	310.1	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	353.2	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	415.1	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	RSK 175	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	SM 5220D	W2528-10	W2528
WC2-4I	WC24I02XX	4/29/02	SW6010B	V2528-11	V2528
WC2-4I	WC24I02XX	4/29/02	SW8260B	V2528-11	V2528
WC2-4S	WC24S02XX	4/29/02	300	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	310.1	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	353.2	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	415.1	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	RSK 175	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	SM 5220D	W2528-11	W2528
WC2-4S	WC24S02XX	4/29/02	SW6010B	V2528-12	V2528
WC2-4S	WC24S02XX	4/29/02	SW8260B	V2528-12	V2528
WC2-5I	WC25I02XX	4/30/02	300	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	310.1	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	353.2	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	415.1	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	RSK 175	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	SM 5220D	W2528-17	W2528
WC2-5I	WC25I02XX	4/30/02	SW6010B	V2528-19	V2528
WC2-5I	WC25I02XX	4/30/02	SW8260B	V2528-19	V2528
WC2-5S	WC25S02XX	4/30/02	300	Z2528-1	Z2528
WC2-5S	WC25S02XX	4/30/02	310.1	Z2528-1	Z2528
WC2-5S	WC25S02XX	4/30/02	415.1	Z2528-1	Z2528
WC2-5S	WC25S02XX	4/30/02	RSK 175	Z2528-1	Z2528
WC2-5S	WC25S02XX	4/30/02	SM 5220D	W2528-18	W2528
WC2-5S	WC25S02XX	4/30/02	SW6010B	Z2528-1	Z2528
WC2-5S	WC25S02XX	4/30/02	SW8260B	Z2528-1	Z2528
WC2-6I	WC26I02XX	4/25/02	300	T2528-9	T2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC2-6I	WC26I02XX	4/25/02	310.1	T2528-9	T2528
WC2-6I	WC26I02XX	4/25/02	415.1	T2528-9	T2528
WC2-6I	WC26I02XX	4/25/02	RSK 175	U2528-18	U2528
WC2-6I	WC26I02XX	4/25/02	SM 5220D	S2528-17	S2528
WC2-6I	WC26I02XX	4/25/02	SW6010B	T2528-9	T2528
WC2-6I	WC26I02XX	4/25/02	SW8260B	T2528-9	T2528
WC-2D	WC2D02XX	5/3/02	300	Z2528-4	Z2528
WC-2D	WC2D02XX	5/3/02	310.1	Z2528-4	Z2528
WC-2D	WC2D02XX	5/3/02	415.1	Z2528-4	Z2528
WC-2D	WC2D02XX	5/3/02	RSK 175	Z2528-4	Z2528
WC-2D	WC2D02XX	5/3/02	SM 5220D	C2528-13	C2528
WC-2D	WC2D02XX	5/3/02	SW6010B	Z2528-4	Z2528
WC-2D	WC2D02XX	5/3/02	SW8260B	Z2528-4	Z2528
WC3-1D	WC31D02XD	5/2/02	300	B2528-9	B2528
WC3-1D	WC31D02XD	5/2/02	310.1	B2528-9	B2528
WC3-1D	WC31D02XD	5/2/02	415.1	B2528-9	B2528
WC3-1D	WC31D02XD	5/2/02	RSK 175	B2528-9	B2528
WC3-1D	WC31D02XD	5/2/02	SM 5220D	C2528-10	C2528
WC3-1D	WC31D02XD	5/2/02	SW6010B	B2528-9	B2528
WC3-1D	WC31D02XD	5/2/02	SW8260B	B2528-9	B2528
WC3-1D	WC31D02XX	5/2/02	300	B2528-5	B2528
WC3-1D	WC31D02XX	5/2/02	310.1	B2528-5	B2528
WC3-1D	WC31D02XX	5/2/02	415.1	B2528-5	B2528
WC3-1D	WC31D02XX	5/2/02	RSK 175	B2528-5	B2528
WC3-1D	WC31D02XX	5/2/02	SM 5220D	C2528-6	C2528
WC3-1D	WC31D02XX	5/2/02	SW6010B	B2528-5	B2528
WC3-1D	WC31D02XX	5/2/02	SW8260B	B2528-5	B2528
WC3-1I	WC31I02XX	5/2/02	300	B2528-6	B2528
WC3-1I	WC31I02XX	5/2/02	310.1	B2528-6	B2528
WC3-1I	WC31I02XX	5/2/02	415.1	B2528-6	B2528
WC3-1I	WC31I02XX	5/2/02	RSK 175	B2528-6	B2528
WC3-1I	WC31I02XX	5/2/02	SM 5220D	C2528-7	C2528
WC3-1I	WC31I02XX	5/2/02	SW6010B	B2528-6	B2528
WC3-1I	WC31I02XX	5/2/02	SW8260B	B2528-6	B2528
WC3-2D	WC32D02XX	5/2/02	300	B2528-7	B2528
WC3-2D	WC32D02XX	5/2/02	310.1	B2528-7	B2528
WC3-2D	WC32D02XX	5/2/02	415.1	B2528-7	B2528
WC3-2D	WC32D02XX	5/2/02	RSK 175	B2528-7	B2528
WC3-2D	WC32D02XX	5/2/02	SM 5220D	C2528-8	C2528
WC3-2D	WC32D02XX	5/2/02	SW6010B	B2528-7	B2528
WC3-2D	WC32D02XX	5/2/02	SW8260B	B2528-7	B2528
WC3-2I	WC32I02XX	5/2/02	300	B2528-8	B2528
WC3-2I	WC32I02XX	5/2/02	310.1	B2528-8	B2528
WC3-2I	WC32I02XX	5/2/02	415.1	B2528-8	B2528
WC3-2I	WC32I02XX	5/2/02	RSK 175	B2528-8	B2528
WC3-2I	WC32I02XX	5/2/02	SM 5220D	C2528-9	C2528
WC3-2I	WC32I02XX	5/2/02	SW6010B	B2528-8	B2528
WC3-2I	WC32I02XX	5/2/02	SW8260B	B2528-8	B2528
WC-3S	WC3S02XX	5/6/02	300	B2528-20	B2528
WC-3S	WC3S02XX	5/6/02	310.1	B2528-20	B2528
WC-3S	WC3S02XX	5/6/02	415.1	B2528-20	B2528
WC-3S	WC3S02XX	5/6/02	RSK 175	B2528-20	B2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC-3S	WC3S02XX	5/6/02	SM 5220D	D2528-9	D2528
WC-3S	WC3S02XX	5/6/02	SW6010B	B2528-20	B2528
WC-3S	WC3S02XX	5/6/02	SW8260B	B2528-20	B2528
WC-4S	WC4S02XX	4/25/02	300	T2528-10	T2528
WC-4S	WC4S02XX	4/25/02	310.1	T2528-10	T2528
WC-4S	WC4S02XX	4/25/02	415.1	T2528-10	T2528
WC-4S	WC4S02XX	4/25/02	RSK 175	U2528-19	U2528
WC-4S	WC4S02XX	4/25/02	SM 5220D	S2528-18	S2528
WC-4S	WC4S02XX	4/25/02	SW6010B	T2528-10	T2528
WC-4S	WC4S02XX	4/25/02	SW8260B	T2528-10	T2528
WC5-1D	WC51D02XX	5/6/02	300	B2528-16	B2528
WC5-1D	WC51D02XX	5/6/02	310.1	B2528-16	B2528
WC5-1D	WC51D02XX	5/6/02	415.1	B2528-16	B2528
WC5-1D	WC51D02XX	5/6/02	RSK 175	B2528-16	B2528
WC5-1D	WC51D02XX	5/6/02	SM 5220D	D2528-5	D2528
WC5-1D	WC51D02XX	5/6/02	SW6010B	B2528-16	B2528
WC5-1D	WC51D02XX	5/6/02	SW8260B	B2528-16	B2528
WC5-1S	WC51S02XX	4/26/02	300	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	310.1	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	353.2	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	415.1	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	RSK 175	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	SM 5220D	W2528-6	W2528
WC5-1S	WC51S02XX	4/26/02	SW6010B	V2528-6	V2528
WC5-1S	WC51S02XX	4/26/02	SW8260B	V2528-6	V2528
WC5-2I	WC52I02XX	5/6/02	300	B2528-17	B2528
WC5-2I	WC52I02XX	5/6/02	310.1	B2528-17	B2528
WC5-2I	WC52I02XX	5/6/02	415.1	B2528-17	B2528
WC5-2I	WC52I02XX	5/6/02	RSK 175	B2528-17	B2528
WC5-2I	WC52I02XX	5/6/02	SM 5220D	D2528-6	D2528
WC5-2I	WC52I02XX	5/6/02	SW6010B	B2528-17	B2528
WC5-2I	WC52I02XX	5/6/02	SW8260B	B2528-17	B2528
WC5-2S	WC52S02XX	5/7/02	300	E2528-3	E2528
WC5-2S	WC52S02XX	5/7/02	310.1	E2528-3	E2528
WC5-2S	WC52S02XX	5/7/02	415.1	E2528-3	E2528
WC5-2S	WC52S02XX	5/7/02	RSK 175	E2528-3	E2528
WC5-2S	WC52S02XX	5/7/02	SM 5220D	D2528-12	D2528
WC5-2S	WC52S02XX	5/7/02	SW6010B	E2528-3	E2528
WC5-2S	WC52S02XX	5/7/02	SW8260B	E2528-3	E2528
WC5-3S	WC53S02XX	5/6/02	300	B2528-19	B2528
WC5-3S	WC53S02XX	5/6/02	310.1	B2528-19	B2528
WC5-3S	WC53S02XX	5/6/02	415.1	B2528-19	B2528
WC5-3S	WC53S02XX	5/6/02	RSK 175	B2528-19	B2528
WC5-3S	WC53S02XX	5/6/02	SM 5220D	D2528-8	D2528
WC5-3S	WC53S02XX	5/6/02	SW6010B	B2528-19	B2528
WC5-3S	WC53S02XX	5/6/02	SW8260B	B2528-19	B2528
WC-5S	WC5S02XX	5/1/02	300	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	310.1	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	353.2	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	415.1	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	RSK 175	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	SM 5220D	A2528-14	A2528

TABLE 1  
DATA VALIDATION SUMMARY  
LISTING OF FIELD SAMPLES  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location	Field Sample ID	Sample Date	Method	Lab ID	SDG
WC-5S	WC5S02XX	5/1/02	SW6010B	Y2528-19	Y2528
WC-5S	WC5S02XX	5/1/02	SW8260B	Y2528-19	Y2528
WC6-1I	WC61I02XX	4/30/02	300	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	310.1	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	353.2	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	415.1	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	RSK 175	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	SM 5220D	W2528-19	W2528
WC6-1I	WC61I02XX	4/30/02	SW6010B	Y2528-2	Y2528
WC6-1I	WC61I02XX	4/30/02	SW8260B	Y2528-2	Y2528
WC-9D2	WC9D202XX	5/6/02	300	B2528-12	B2528
WC-9D2	WC9D202XX	5/6/02	310.1	B2528-12	B2528
WC-9D2	WC9D202XX	5/6/02	415.1	B2528-12	B2528
WC-9D2	WC9D202XX	5/6/02	RSK 175	B2528-12	B2528
WC-9D2	WC9D202XX	5/6/02	SM 5220D	D2528-1	D2528
WC-9D2	WC9D202XX	5/6/02	SW6010B	B2528-12	B2528
WC-9D2	WC9D202XX	5/6/02	SW8260B	B2528-12	B2528
WC-9S	WC9S02XX	5/6/02	300	B2528-13	B2528
WC-9S	WC9S02XX	5/6/02	310.1	B2528-13	B2528
WC-9S	WC9S02XX	5/6/02	415.1	B2528-13	B2528
WC-9S	WC9S02XX	5/6/02	RSK 175	B2528-13	B2528
WC-9S	WC9S02XX	5/6/02	SM 5220D	D2528-2	D2528
WC-9S	WC9S02XX	5/6/02	SW6010B	B2528-13	B2528
WC-9S	WC9S02XX	5/6/02	SW8260B	B2528-13	B2528



TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	R2528	VIBLKAA	VIBLKAA	MB	1,1,1-TRICHLOROETHANE	2	J	µg/L
SW8260B	Y2528	WG17207-1	VBLKXX	MB	1,1,1-TRICHLOROETHANE	2	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	1,1-DICHLOROETHENE	0.09	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	ACETONE	4	B	µg/L
SW8260B	B2528	B2528-21	TBK02010	TB	ACETONE	3	B	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	ACETONE	2	JB	µg/L
SW8260B	E2528	E2528-7	TBK02012	TB	ACETONE	3	B	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	ACETONE	1	JB	µg/L
SW8260B	T2528	T2528-12	TBK02003	TB	ACETONE	3	B	µg/L
SW8260B	V2528	V2528-13	TBK02005	TB	ACETONE	3	B	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	ACETONE	2	JB	µg/L
SW8260B	V2528	VIBLKAA	VIBLKAA	MB	ACETONE	1	JB	µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	ACETONE	2	JB	µg/L
SW8260B	Q2528	VIBLKAB	VIBLKAB	MB	ACETONE	2	JB	µg/L
SW8260B	Z2528	VIBLKAC	VIBLKAC	MB	ACETONE	3	B	µg/L
SW8260B	T2528	VIBLKAD	VIBLKAD	MB	ACETONE	3	B	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	ACETONE	2	J	µg/L
SW8260B	Q2528	WG17055-1	VBLKXK	MB	ACETONE	2	J	µg/L
SW8260B	Q2528	WG17055-2	VBLKXL	MB	ACETONE	1	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	ACETONE	3		µg/L
SW8260B	T2528	WG17105-2	VBLKYM	MB	ACETONE	1	J	µg/L
SW8260B	V2528	WG17105-2	VBLKYM	MB	ACETONE	1	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	ACETONE	1	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	ACETONE	1	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	ACETONE	2	J	µg/L
SW8260B	QL1877	WG17126-1	VBLKZD	MB	ACETONE	3		µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	ACETONE	2	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	ACETONE	2	J	µg/L
SW8260B	Z2528	WG17184-1	VBLKAZ	MB	ACETONE	1	J	µg/L
SW8260B	V2528	WG17184-1	VBLKAZ	MB	ACETONE	1	J	µg/L
SW8260B	Y2528	WG17184-1	VBLKAZ	MB	ACETONE	1	J	µg/L
SW8260B	T2528	WG17184-2	VBLKBA	MB	ACETONE	1	J	µg/L
SW8260B	V2528	WG17184-2	VBLKBA	MB	ACETONE	1	J	µg/L
SW8260B	Y2528	WG17184-2	VBLKBA	MB	ACETONE	1	J	µg/L
SW8260B	V2528	WG17184-2A	VBLKBD	MB	ACETONE	2	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	ACETONE	2	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	ACETONE	2	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	ACETONE	2	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	ACETONE	2	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	ACETONE	2	J	µg/L
SW8260B	Z2528	WG17246-2	VBLKDO	MB	ACETONE	2	J	µg/L
SW8260B	B2528	WG17247-1	VBLKDT	MB	ACETONE	1	J	µg/L
SW8260B	Z2528	WG17401-2	VBLKGR	MB	ACETONE	2	J	µg/L
SW8260B	B2528	WG17401-2	VBLKGR	MB	ACETONE	2	J	µg/L
SW8260B	E2528	WG17401-2	VBLKGR	MB	ACETONE	2	J	µg/L
SW8260B	B2528	WG17401-3	VBLKGS	MB	ACETONE	2	J	µg/L
SW8260B	E2528	WG17401-3	VBLKGS	MB	ACETONE	2	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	ACETONE	2	JB	µg/L
SW8260B	Y2528	Y2528-3	TBK02006	TB	ACETONE	4	B	µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	BENZENE	0.2	JB	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	BENZENE	0.02	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	BENZENE	0.02	J	µg/L

TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	T2528	WG17105-2	VBLKYM	MB	BENZENE	0.02	J	µg/L
SW8260B	V2528	WG17105-2	VBLKYM	MB	BENZENE	0.02	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	BENZENE	0.03	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	BENZENE	0.03	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	BENZENE	0.02	J	µg/L
SW8260B	QL1877	WG17126-1	VBLKZD	MB	BENZENE	0.02	J	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	BENZENE	0.02	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	BENZENE	0.02	J	µg/L
SW8260B	V2528	WG17184-2A	VBLKBD	MB	BENZENE	0.02	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	BENZENE	0.02	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	BENZENE	0.02	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	BENZENE	0.02	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	BENZENE	0.1	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	BENZENE	0.1	J	µg/L
SW8260B	B2528	WG17247-1	VBLKDT	MB	BENZENE	0.03	J	µg/L
SW8260B	Z2528	WG17401-2	VBLKGR	MB	BENZENE	0.02	J	µg/L
SW8260B	B2528	B2528-21	TBK02010	TB	CARBON DISULFIDE	0.09	J	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	CARBON DISULFIDE	0.1	J	µg/L
SW8260B	Q2528	WG17055-1	VBLKXK	MB	CARBON DISULFIDE	0.2	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	CARBON DISULFIDE	0.1	J	µg/L
SW8260B	Z2528	WG17246-2	VBLKDO	MB	CARBON DISULFIDE	0.1	J	µg/L
SW8260B	Z2528	WG17401-2	VBLKGR	MB	CARBON DISULFIDE	0.09	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	CHLOROBENZENE	0.04	J	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	CHLOROBENZENE	0.04	J	µg/L
SW8260B	E2528	E2528-7	TBK02012	TB	CHLOROBENZENE	0.05	J	µg/L
SW8260B	Q2528	Q2528-14	TBK02001	TB	CHLOROBENZENE	0.05	JB	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	CHLOROBENZENE	0.05	J	µg/L
SW8260B	T2528	T2528-12	TBK02003	TB	CHLOROBENZENE	0.02	JB	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	CHLOROBENZENE	0.03	JB	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	T2528	WG17105-2	VBLKYM	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	V2528	WG17105-2	VBLKYM	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	CHLOROBENZENE	0.02	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	CHLOROBENZENE	0.02	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	CHLOROBENZENE	0.04	J	µg/L
SW8260B	QL1877	WG17126-1	VBLKZD	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	V2528	WG17184-2A	VBLKBD	MB	CHLOROBENZENE	0.02	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	CHLOROBENZENE	0.02	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	CHLOROBENZENE	0.05	J	µg/L
SW8260B	Y2528	Y2528-3	TBK02006	TB	CHLOROBENZENE	0.03	J	µg/L
SW8260B	Z2528	Z2528-19	TBK02009	TB	CHLOROBENZENE	0.05	J	µg/L
SW8260B	V2528	V2528-13	TBK02005	TB	CHLOROMETHANE	0.1	J	µg/L
SW8260B	X2528	WG17155-2	VBLKZT	MB	CHLOROMETHANE	0.9	J	µg/L
SW8260B	Y2528	WG17207-1	VBLKCV	MB	CHLOROMETHANE	0.8	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	CIS-1,2-DICHLOROETHENE	0.03	J	µg/L
SW8260B	B2528	B2528-21	TBK02010	TB	CIS-1,2-DICHLOROETHENE	0.2	JB	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	CIS-1,2-DICHLOROETHENE	0.03	J	µg/L

TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	E2528	E2528-7	TBK02012	TB	CIS-1,2-DICHLOROETHENE	0.05	JB	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	CIS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	Q2528	VIBLKAB	VIBLKAB	MB	CIS-1,2-DICHLOROETHENE	0.1	JB	µg/L
SW8260B	Q2528	WG17055-1	VLKXK	MB	CIS-1,2-DICHLOROETHENE	0.4	J	µg/L
SW8260B	T2528	WG17124-1	VLKZA	MB	CIS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	QL1877	WG17126-1	VLKZD	MB	CIS-1,2-DICHLOROETHENE	0.03	J	µg/L
SW8260B	Z2528	WG17401-1	VLKGQ	MB	CIS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	B2528	WG17401-1	VLKGQ	MB	CIS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	E2528	WG17401-1	VLKGQ	MB	CIS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	Z2528	WG17401-2	VLKGR	MB	CIS-1,2-DICHLOROETHENE	0.03	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	CIS-1,2-DICHLOROETHENE	0.06	J	µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	ETHYLBENZENE	0.04	J	µg/L
SW8260B	T2528	WG17124-1	VLKZA	MB	ETHYLBENZENE	0.03	J	µg/L
SW8260B	T2528	WG17177-1	VLKAK	MB	ETHYLBENZENE	0.04	J	µg/L
SW8260B	V2528	WG17177-1	VLKAK	MB	ETHYLBENZENE	0.04	J	µg/L
SW8260B	B2528	WG17191-2	VLKZZ	MB	ETHYLBENZENE	0.04	J	µg/L
SW8260B	Y2528	WG17191-2	VLKZZ	MB	ETHYLBENZENE	0.04	J	µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	M,P-XYLENE	0.08	JB	µg/L
SW8260B	Q2528	WG17046-1	VLKWY	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	T2528	WG17105-1	VLKYL	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	T2528	WG17124-1	VLKZA	MB	M,P-XYLENE	0.09	J	µg/L
SW8260B	QL1877	WG17126-1	VLKZD	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	T2528	WG17177-1	VLKAK	MB	M,P-XYLENE	0.09	J	µg/L
SW8260B	V2528	WG17177-1	VLKAK	MB	M,P-XYLENE	0.09	J	µg/L
SW8260B	V2528	WG17184-2A	VLKBD	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	Y2528	WG17184-2A	VLKBD	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	V2528	WG17191-1	VLKBC	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	Y2528	WG17191-1	VLKBC	MB	M,P-XYLENE	0.07	J	µg/L
SW8260B	B2528	WG17191-2	VLKZZ	MB	M,P-XYLENE	0.1	J	µg/L
SW8260B	Y2528	WG17191-2	VLKZZ	MB	M,P-XYLENE	0.1	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	METHYLENE CHLORIDE	0.3	JB	µg/L
SW8260B	B2528	B2528-21	TBK02010	TB	METHYLENE CHLORIDE	0.4	JB	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	METHYLENE CHLORIDE	0.1	JB	µg/L
SW8260B	E2528	E2528-7	TBK02012	TB	METHYLENE CHLORIDE	0.2	JB	µg/L
SW8260B	Q2528	Q2528-14	TBK02001	TB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	METHYLENE CHLORIDE	0.1	JB	µg/L
SW8260B	T2528	T2528-12	TBK02003	TB	METHYLENE CHLORIDE	0.3	JB	µg/L
SW8260B	V2528	V2528-13	TBK02005	TB	METHYLENE CHLORIDE	0.3	J	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	Q2528	VIBLKAB	VIBLKAB	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Z2528	VIBLKAC	VIBLKAC	MB	METHYLENE CHLORIDE	0.6	B	µg/L
SW8260B	Q2528	WG17055-2	VLKXL	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	T2528	WG17105-2	VLKYM	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	V2528	WG17105-2	VLKYM	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Q2528	WG17121-1	VLKYU	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Q2528	WG17121-1	VLKYU	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	T2528	WG17124-1	VLKZA	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Z2528	WG17184-1	VLKAZ	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	V2528	WG17184-1	VLKAZ	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Y2528	WG17184-1	VLKAZ	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	V2528	WG17184-2A	VLKBD	MB	METHYLENE CHLORIDE	0.09	J	µg/L
SW8260B	Y2528	WG17184-2A	VLKBD	MB	METHYLENE CHLORIDE	0.09	J	µg/L

TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	V2528	WG17191-1	VBLKBC	MB	METHYLENE CHLORIDE	0.09	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	METHYLENE CHLORIDE	0.09	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	Z2528	WG17246-1	VBLKDN	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	B2528	WG17246-1	VBLKDN	MB	METHYLENE CHLORIDE	0.1	J	µg/L
SW8260B	Z2528	WG17246-2	VBLKDO	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	B2528	WG17247-1	VBLKDT	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	Z2528	WG17401-1	VBLKGQ	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	B2528	WG17401-1	VBLKGQ	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	E2528	WG17401-1	VBLKGQ	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	Z2528	WG17401-2	VBLKGR	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	B2528	WG17401-3	VBLKGS	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	E2528	WG17401-3	VBLKGS	MB	METHYLENE CHLORIDE	0.2	J	µg/L
SW8260B	W2512	WG17454-1	VBLKIS	MB	METHYLENE CHLORIDE	3	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	METHYLENE CHLORIDE	0.3	JB	µg/L
SW8260B	Y2528	Y2528-3	TBK02006	TB	METHYLENE CHLORIDE	0.3	J	µg/L
SW8260B	Z2528	Z2528-19	TBK02009	TB	METHYLENE CHLORIDE	0.3	JB	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	STYRENE	0.04	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	STYRENE	0.04	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	TETRACHLOROETHENE	0.1	JB	µg/L
SW8260B	Q2528	Q2528-14	TBK02001	TB	TETRACHLOROETHENE	0.05	JB	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	TETRACHLOROETHENE	0.1	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	TETRACHLOROETHENE	0.08	J	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	TETRACHLOROETHENE	0.06	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	TETRACHLOROETHENE	0.06	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	TETRACHLOROETHENE	0.07	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	TETRACHLOROETHENE	0.07	J	µg/L
SW8260B	B2528	WG17247-1	VBLKDT	MB	TETRACHLOROETHENE	0.06	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	TOLUENE	0.2	JB	µg/L
SW8260B	B2528	B2528-21	TBK02010	TB	TOLUENE	0.1	JB	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	TOLUENE	0.1	J	µg/L
SW8260B	E2528	E2528-7	TBK02012	TB	TOLUENE	0.2	JB	µg/L
SW8260B	Q2528	Q2528-14	TBK02001	TB	TOLUENE	0.1	J	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	TOLUENE	0.2	JB	µg/L
SW8260B	T2528	T2528-12	TBK02003	TB	TOLUENE	0.1	JB	µg/L
SW8260B	V2528	V2528-13	TBK02005	TB	TOLUENE	0.1	J	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	TOLUENE	0.2	J	µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	TOLUENE	0.3	J	µg/L
SW8260B	Q2528	WG17055-2	VBLKXL	MB	TOLUENE	0.07	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	TOLUENE	0.08	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TOLUENE	0.08	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TOLUENE	0.08	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	TOLUENE	0.07	J	µg/L
SW8260B	Z2528	WG17184-1	VBLKAZ	MB	TOLUENE	0.06	J	µg/L
SW8260B	V2528	WG17184-1	VBLKAZ	MB	TOLUENE	0.06	J	µg/L
SW8260B	Y2528	WG17184-1	VBLKAZ	MB	TOLUENE	0.06	J	µg/L
SW8260B	V2528	WG17184-2A	VBLKBD	MB	TOLUENE	0.06	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	TOLUENE	0.06	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	TOLUENE	0.2	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	TOLUENE	0.2	J	µg/L
SW8260B	Z2528	WG17246-1	VBLKDN	MB	TOLUENE	0.07	J	µg/L

TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	B2528	WG17246-1	VBLKDN	MB	TOLUENE	0.07	J	µg/L
SW8260B	B2528	WG17247-1	VBLKDT	MB	TOLUENE	0.08	J	µg/L
SW8260B	Z2528	WG17401-1	VBLKGQ	MB	TOLUENE	0.05	J	µg/L
SW8260B	B2528	WG17401-1	VBLKGQ	MB	TOLUENE	0.05	J	µg/L
SW8260B	E2528	WG17401-1	VBLKGQ	MB	TOLUENE	0.05	J	µg/L
SW8260B	Y2528	Y2528-18	TBK02007	TB	TOLUENE	0.1	JB	µg/L
SW8260B	Y2528	Y2528-3	TBK02006	TB	TOLUENE	0.2	J	µg/L
SW8260B	Z2528	Z2528-19	TBK02009	TB	TOLUENE	0.2	JB	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TRANS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TRANS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	TRANS-1,2-DICHLOROETHENE	0.04	J	µg/L
SW8260B	B2528	B2528-10	TBK02008	TB	TRICHLOROETHENE	0.03	J	µg/L
SW8260B	E2528	E2528-4	TBK02011	TB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	E2528	E2528-7	TBK02012	TB	TRICHLOROETHENE	0.08	J	µg/L
SW8260B	Q2528	Q2528-19	TBK02002	TB	TRICHLOROETHENE	0.2	JB	µg/L
SW8260B	V2528	V2528-13	TBK02005	TB	TRICHLOROETHENE	0.1	JB	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	TRICHLOROETHENE	0.2	JB	µg/L
SW8260B	Q2528	VIBLKAB	VIBLKAB	MB	TRICHLOROETHENE	0.4	JB	µg/L
SW8260B	B2528	VIBLKKB	VIBLKKB	MB	TRICHLOROETHENE	1	JB	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	Q2528	WG17055-1	VBLKXK	MB	TRICHLOROETHENE	0.2	J	µg/L
SW8260B	Q2528	WG17055-2	VBLKXL	MB	TRICHLOROETHENE	0.06	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	TRICHLOROETHENE	0.05	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TRICHLOROETHENE	0.05	J	µg/L
SW8260B	Q2528	WG17121-1	VBLKYU	MB	TRICHLOROETHENE	0.05	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	TRICHLOROETHENE	0.2	J	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	TRICHLOROETHENE	0.08	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	TRICHLOROETHENE	0.08	J	µg/L
SW8260B	Z2528	WG17184-1	VBLKAZ	MB	TRICHLOROETHENE	0.02	J	µg/L
SW8260B	V2528	WG17184-1	VBLKAZ	MB	TRICHLOROETHENE	0.02	J	µg/L
SW8260B	Y2528	WG17184-1	VBLKAZ	MB	TRICHLOROETHENE	0.02	J	µg/L
SW8260B	T2528	WG17184-2	VBLKBA	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	V2528	WG17184-2	VBLKBA	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	Y2528	WG17184-2	VBLKBA	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	V2528	WG17184-2A	VBLKBD	MB	TRICHLOROETHENE	0.03	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	TRICHLOROETHENE	0.03	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	TRICHLOROETHENE	0.07	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	TRICHLOROETHENE	0.07	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	TRICHLOROETHENE	0.04	J	µg/L
SW8260B	Z2528	WG17246-1	VBLKDN	MB	TRICHLOROETHENE	0.06	J	µg/L
SW8260B	B2528	WG17246-1	VBLKDN	MB	TRICHLOROETHENE	0.06	J	µg/L
SW8260B	B2528	WG17345-1	VBLKFS	MB	TRICHLOROETHENE	1	J	µg/L
SW8260B	Z2528	WG17401-2	VBLKGR	MB	TRICHLOROETHENE	0.02	J	µg/L
SW8260B	V2528	V2528-7	TBK02004	TB	VINYL CHLORIDE	0.6		µg/L
SW8260B	Y2528	VIBLKAB	VIBLKAB	MB	XYLENE (TOTAL)	0.08	JB	µg/L
SW8260B	Q2528	WG17046-1	VBLKWY	MB	XYLENE (TOTAL)	0.08	J	µg/L
SW8260B	T2528	WG17105-1	VBLKYL	MB	XYLENE (TOTAL)	0.08	J	µg/L
SW8260B	T2528	WG17124-1	VBLKZA	MB	XYLENE (TOTAL)	0.1	J	µg/L
SW8260B	QL1877	WG17126-1	VBLKZD	MB	XYLENE (TOTAL)	0.07	J	µg/L
SW8260B	T2528	WG17177-1	VBLKAK	MB	XYLENE (TOTAL)	0.09	J	µg/L
SW8260B	V2528	WG17177-1	VBLKAK	MB	XYLENE (TOTAL)	0.09	J	µg/L

TABLE 2  
DATA VALIDATION SUMMARY  
TARGET COMPOUNDS REPORTED IN BLANKS  
STRATFORD ARMY ENGINE PLANT RI  
STRATFORD, CONNECTICUT

Method	SDG	Lab ID	Sample ID	QC Type	Chemical Name	Result	Qualifier	Unit
SW8260B	V2528	WG17184-2A	VBLKBD	MB	XYLENE (TOTAL)	0.08	J	µg/L
SW8260B	Y2528	WG17184-2A	VBLKBD	MB	XYLENE (TOTAL)	0.08	J	µg/L
SW8260B	V2528	WG17191-1	VBLKBC	MB	XYLENE (TOTAL)	0.07	J	µg/L
SW8260B	Y2528	WG17191-1	VBLKBC	MB	XYLENE (TOTAL)	0.07	J	µg/L
SW8260B	B2528	WG17191-2	VBLKZZ	MB	XYLENE (TOTAL)	0.1	J	µg/L
SW8260B	Y2528	WG17191-2	VBLKZZ	MB	XYLENE (TOTAL)	0.1	J	µg/L
Notes:								
TB - trip blank								
MB - method blank								
SDG - sample delivery group								

**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

LOCATION: D-13		D-13-1	D-13-2	D-13-3	D-13-4	D-17A	D-4	D-4-1
SAMPLE ID: D1302XX		D131102XX	D132102XX	D133102XX	D134102XX	D1702AXX	D402XX	D41102XX
SAMPLE DATE: 05/03/02		05/03/02	05/03/02	05/03/02	05/03/02	05/03/02	04/23/02	04/23/02
LAB ID: Z2528-20		Z2528-13	Z2528-14	Z2528-15	Z2528-16	Z2528-17	Z2528-12	Z2528-13
PARAMETER								
1,1,1-Trichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane		2	0.5 U	2	0.5 U	1	74	1
1,1-Dichloroethene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	39 J	0.5 U
1,2-Dichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1	0.5 U
1,2-Dichloropropane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone		R	R	R	R	R	R	R
Benzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	14	2
Bromodichloromethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide		0.5 U	0.9	1	0.5 U	2	10 J	0.5 U
Carbon tetrachloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3	1
Chlorodibromomethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1100	0.5 U
Chloroform		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene		0.5 U	0.5 U	0.5	0.5 U	0.5 U	46000	1 U
Cis-1,3-Dichloropropene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	24 J	0.6
Methyl bromide		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone		3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone		R	3 J	R	R	10 J	R	R
Methyl isobutyl ketone		3 U	0.5 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.8	0.5 U
Styrene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	19	0.5 U
trans-1,2-Dichloroethene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	110	0.9
trans-1,3-Dichloropropene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	13	0.5 U
Vinyl chloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3000	0.5 J
Xylenes, Total		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	43	0.5 U

Notes:

Units = µg/L

U = not detected

J = estimated value

R = result rejected

**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: D-4-2 SAMPLE ID: D42102XX SAMPLE DATE: 05/03/02 LAB ID: Z2528-9	D-4-3 D43102XX 05/03/02 Z2528-10	D-4-4 D44102XX 05/03/02 Z2528-11	D-4-5 D4502XX 05/03/02 Z2528-18	D-8 D802XX 05/03/02 Z2528-12	HESE-01-05D HESE0105D02XX 04/23/02 Q2528-1	HESE-01-06D HESE0106D02XX 04/22/02 Q2528-3	HESE-01-06I HESE0106I02XX 04/22/02 Q2528-2
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	44	6	0.5 U	660
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	49 J
1,1-Dichloroethane	0.5 J	11	1	1	270	0.5 U	0.5 U	460
1,1-Dichloroethene	0.5 U	3	0.5 U	0.5 U	4	2	3	4400
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	2	0.5 U	0.5 U	24
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.6	3	0.5 U	3	1	0.5 U	0.5 U	1 J
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	2200 J	0.5 U	0.5 U	0.5 U	0.5 U	1.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U	4
Cis-1,2-Dichloroethene	0.5	6600	0.5 U	0.5 U	3	0.5 U	54	9400
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	51 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	26 J	6 J	R	R	13 J	R	1 J	R
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3
Toluene	0.5 U	11	0.5 U	0.5 U	0.5 U	0.5 U	0.6	450 J
trans-1,2-Dichloroethene	0.5 U	33 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	28 J
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	22	0.5 U	0.5 U	3	0.5 U	3	310
Vinyl chloride	0.5 U	2400	0.5 U	0.5 U	1	0.5 U	0.5 U	10
Xylenes, Total	0.5 U	33	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

Units = µg/L

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R = result rejected



**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: HESE-01-07D SAMPLE ID: HESE0107D02XD SAMPLE DATE: 04/23/02 LAB ID: Q2528-15	HESE-01-07D HESE0107D02XX 04/23/02 Q2528-4	HESE-01-071 HESE0107102XX 04/22/02 R2528-1	HESE-01-08D HESE0108D02XX 04/24/02 T2528-1	HESE-01-09D HESE0109D02XX 04/24/02 T2528-2	HESE-01-10D HESE0110D02XX 04/24/02 T2528-3	HESE-01-12D HESE0112D02XX 04/23/02 R2528-2	HESE-01-12I HESE0112I02XX 04/23/02 R2528-3
1,1,1-Trichloroethane	2100 J	1000 J	27000 J	16	4	34	23000 J	680000 J
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
1,1,2-Trichloroethane	0.5 U	0.5 U	500 U	0.5 U	0.7	0.5 U	500 U	500 U
1,1-Dichloroethane	9	9	1600	40	280	81	1300	1400
1,1-Dichloroethene	85 J	36 J	7700	13	430	280	8900	42000
1,2-Dichloroethane	1	0.5 U	500 UJ	0.8	0.5 U	0.5 U	500 UJ	3900 J
1,2-Dichloropropane	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Acetone	R	R	R	37	R	R	R	R
Benzene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Bromodichloromethane	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Bromoform	0.5 U	0.5 U	500 UJ	0.5 U	0.5 U	0.5 U	500 UJ	500 UJ
Carbon disulfide	0.5 U	0.5 U	500 UJ	3	0.5 U	0.5 U	500 UJ	500 UJ
Carbon tetrachloride	0.5 U	0.5 U	500 UJ	0.5 U	0.5 U	0.5 U	500 UJ	500 UJ
Chlorobenzene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Chlorodibromomethane	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Chloroethane	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Chloroform	0.5 U	0.5 U	500 U	0.5 U	0.8	0.5 U	500 U	150 J
Cis-1,2-Dichloroethene	7	9	6700	7	0.5 U	16	89 J	420 J
Cis-1,3-Dichloropropene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Ethyl benzene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Methyl bromide	0.5 U	0.5 U	500 U	0.5 UJ	0.5 UJ	0.5 UJ	500 U	500 U
Methyl butyl ketone	3 U	3 U	1300 U	3 U	3 U	3 U	1300 U	1300 U
Methyl chloride	0.5 UJ	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Methyl ethyl ketone	R	R	1800	19 J	3 J	9 J	1300 U	1300 U
Methyl isobutyl ketone	3 U	3 U	1300 U	3 U	3 U	3 U	1300 U	1300 U
Methylene chloride	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	230 J
Styrene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Tetrachloroethene	0.5 U	0.5 UJ	500 U	0.5 U	2	9	500 U	500 U
Toluene	7	7	1700	0.9	0.5 U	0.5 U	700	2700
trans-1,2-Dichloroethene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U
Trichloroethene	220 J	140 J	9800	43	13	820	2800	90000
Vinyl chloride	0.5 U	0.5 U	500 U	0.5 J	1	0.9	500 U	500 U
Xylenes, Total	0.5 U	0.5 UJ	500 U	0.5 U	0.5 U	0.5 U	500 U	500 U

Notes:

Units = µg/L

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R = result rejected

**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: HESE-01-141 SAMPLE ID: HESE0114102XX SAMPLE DATE: 04/23/02 LAB ID: R2528-4	HESE-01-151 HESE0115102XX 04/24/02 R2528-5	HESE-01-161 HESE0116102XX 04/25/02 R2528-6	HESE-01-17D HESE0117D02XX 04/25/02 R2528-7	HESE-01-171 HESE0117102XX 04/25/02 T2528-5	HESE-01-18D HESE0118D02XX 04/25/02 T2528-7	MW-1 MW102XX 04/26/02 V2528-1	MW-2 MW202XX 04/26/02 V2528-2
1,1,1-Trichloroethane	500 UJ	4 J	1000 U	25 U	5	29	0.5 U	4
1,1,2,2-Tetrachloroethane	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	500 U	5 U	1000 U	25 U	0.5 U	3	0.5 U	0.5 U
1,1-Dichloroethane	500 U	3 J	1000 U	25 U	3	100	0.5	5
1,1-Dichloroethene	430 J	5 U	510 J	25 U	0.5 U	380	2	0.5 U
1,2-Dichloroethane	500 UJ	5 U	1000 U	25 U	0.5 U	3	0.5 U	0.6
1,2-Dichloropropane	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	500 U	5 U	1000 U	25 U	0.5 U	1	0.5 U	19
Bromodichloromethane	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	500 UJ	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	500 UJ	5 UJ	1000 UJ	25 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	500 UJ	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	1
Chloroform	500 U	5 U	220 J	25 U	0.5 U	6	0.5 U	0.5 U
Cis-1,2-Dichloroethene	500 U	5 U	14000	32	0.8	3300	9	18
Cis-1,3-Dichloropropene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	1300 U	13 U	2500 U	63 U	3 U	3 U	3 U	3 U
Methyl chloride	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	1300 U	34	2500 U	63 U	68 J	3 UJ	3 U	3 U
Methyl isobutyl ketone	1300 U	13 U	2500 U	63 U	0.5 U	3 U	3 U	3 U
Methylene chloride	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	500 U	5 U	360 J	25 U	0.5 U	400	63	0.5 U
Toluene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	500 U	5 U	1000 U	25 U	0.5 J	8	0.5 U	0.6
trans-1,3-Dichloropropene	500 U	5 U	1000 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	15000	1 J	130000	770	1 U	9400	95	2
Vinyl chloride	500 U	0.6 J	980 J	25 U	1	97	0.5 U	16
Xylenes, Total	500 U	5 U	1000 U	25 U	0.5 J	0.5 U	0.5 U	0.5 U

Notes:

Units = µg/L

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: MW-4 SAMPLE ID: MW402XX SAMPLE DATE: 04/25/02 LAB ID: T2528-8	MWCD-99-01A MWCD9901A02XX 05/01/02 Y2528-11	MWCD-99-01B MWCD9901B02XX 05/01/02 Y2528-12	MWCD-99-02A MWCD9902A02XX 05/01/02 Y2528-13	MWCD-99-02B MWCD9902B02XX 05/01/02 Y2528-14	PZ-11D PZ11D02XX 05/02/02 B2528-1	PZ-13D PZ13D02XX 05/02/02 B2528-4	PZ-16D PZ16D02XX 04/29/02 V2528-8
1,1,1-Trichloroethane	0.5 U	0.9	0.5 U	0.5 U	0.5 U	36	1 U	0.5 UJ
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2	0.5 U
1,1-Dichloroethane	0.8	9	0.5 U	0.5 U	0.5 U	42	3	120
1,1-Dichloroethene	0.5 J	0.5 U	0.5 U	0.5 U	0.5 U	430	14	160
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	48	0.7	5
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	1	0.5 U	0.5 U	0.5 U	0.5 U	1	0.5 U	3
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1	0.5 J	0.5 U
Cis-1,2-Dichloroethene	4	5	1	0.5 U	0.5 U	16	73	930
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	R	R	R	R	R	4 J	16 J	3 U
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.9	0.5 U	0.5 U	4	0.5 U	430	590	4
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	26	1	3	0.5 U	0.5 U	280	1100	3
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2	160
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: PZ-17D	PZ-17D	PZ-1D	PZ-4D	PZ-5D	PZ-8D	PZ-99-02B	PZ-99-03	PZ-99-04I
	SAMPLE ID: PZ17D02XX	PZ1D02XX	PZ4D02XX	PZ5D02XX	PZ8D02XX	PZ9902B02XX	PZ9902B02XX	PZ990302XX	PZ9904I02XX
	SAMPLE DATE: 04/26/02	05/01/02	04/25/02	05/01/02	05/03/02	05/02/02	05/02/02	05/02/02	05/02/02
	LAB ID: V2528-3	Y2528-4	T2528-11	Y2528-15	Z2528-2	Y2528-20	Y2528-20	B2528-2	B2528-3
1,1,1-Trichloroethane	1 J	4	9 J	0.5 U	0.5 U	0.5 U	0.7 J	30000	27
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
1,1,2-Trichloroethane	0.5	3	0.5 U	0.5 U	0.5 U	0.5 U	2 J	1000 U	5 U
1,1-Dichloroethane	21	140 J	150	0.9	0.5 U	0.5 U	5 U	580 J	33
1,1-Dichloroethene	35	120 J	1	0.5 U	0.5 U	0.5 U	20	3500	480 J
1,2-Dichloroethane	0.7	2	0.5 U	0.5	0.5 U	0.5 U	5 U	1000 U	5
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Acetone	R	R	R	R	R	R	R	2500 U	41 J
Benzene	0.5 U	1	1	15	0.5 U	0.5 U	5 U	1000 U	2 J
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	6	1000 U	5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Carbon disulfide	0.5 U	0.5 U	3	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Carbon tetrachloride	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	5 U	1000 U	9
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Chloroform	0.5 U	3	0.5 U	0.5 U	0.5 U	0.5 U	31	1000 U	52
Cis-1,2-Dichloroethene	57	380	21	0.5 U	0.5 U	0.5 U	91	170 J	65
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	13 U	2500 U	13 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	2 J
Methyl ethyl ketone	3 U	7 J	R	R	R	R	R	2500 U	R
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	13 U	2500 U	13 U
Methylene chloride	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Tetrachloroethene	2	440	0.5 U	0.5 U	1	0.5 U	6	1000 U	130
Toluene	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U	5 U	1000 U	5 U
trans-1,2-Dichloroethene	0.6	1	10	0.5 U	0.5 U	0.5 U	5 U	1000 U	3 J
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Trichloroethene	510	6600	34	0.5 U	0.6	0.5 U	10000 J	370 U	150000
Vinyl chloride	6	18	2100	0.5 U	0.5 U	0.5 U	5 U	1000 U	5 U
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.7	0.5 U	0.5 U	5 U	1000 U	5 U

Notes:

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: PZ-9D SAMPLE ID: PZ9D02XD SAMPLE DATE: 05/06/02 LAB ID: B2528-15	PZ-9D PZ9D02XX 05/06/02 B2528-14	PZ-TF-01B PZTF01B02XX 04/23/02 Q2528-8	PZ-TF-02A PZTF02A02XX 04/24/02 Q2528-17	PZ-TF-02B PZTF02B02XX 04/24/02 Q2528-18	PZ-TF-03A PZTF03A02XX 05/01/02 Y2528-7	PZ-TF-03B PZTF03B02XX 04/24/02 Q2528-20	PZ-TF-04B PZTF04B02XX 04/23/02 Q2528-9
1,1,1-Trichloroethane	0.5 U	0.5 U	18	4	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	3	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	18	15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3
1,1-Dichloroethene	30 J	31 J	0.6	0.5 U	0.5 U	0.5 U	0.5 U	3
1,2-Dichloroethane	1	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	1 J	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	1100	960	5	0.5 U	0.5 U	0.5 U	0.5 U	61
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	R	2 J	2 J	4 J	R	3 J	R	R
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	3	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	4
Toluene	5 U	5 U	0.5	0.8 J	0.5 J	1	0.9	0.5 U
trans-1,2-Dichloroethene	4	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 J
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	2500	2500	6	42	0.5 U	0.5 U	0.5 U	180
Vinyl chloride	4	4	0.6	0.5 U	0.5 U	0.5 U	0.5 U	5
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

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**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: PZ-TF-05A SAMPLE ID: PZTF05A02XX SAMPLE DATE: 05/01/02 LAB ID: Y2528-8	PZ-TF-05B PZTF05B02XD 05/01/02 Y2528-17	PZ-TF-05B PZTF05B02XX 05/01/02 Y2528-9	PZ-TF-06B PZTF06B02XX 04/23/02 Q2528-10	PZ-TF-07A PZTF07A02XX 05/01/02 Y2528-10	PZ-TF-07B PZTF07B02XX 04/30/02 V2528-15	PZ-TF-08B PZTF08B02XX 04/30/02 V2528-16	PZ-TF-09A PZTF09A02XX 05/08/02 E2528-6
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	440	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.6	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	5	0.5 U	0.5 U	0.7	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	17 U	0.5 U	9	4	0.5 U
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	1	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	0.5 U	0.5 U	13 U	3 U	0.5 U	3 U	3 U
Methyl chloride	0.8	0.5	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	4 J	R	R	R	4 J	3 U	R	R
Methyl isobutyl ketone	3 U	3 U	3 U	13 U	3 U	3 U	3 U	3 U
Methylene chloride	0.5 U	0.5 U	0.5 U	0.8 J	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	1 J	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.7	0.7 U	0.7	3	0.5	1	0.6 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.8 J	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 U	47	2	5	35	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	43	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes, Total	0.5 U	0.5 U	0.5 U	3 U	0.5 U	3	0.5 U	0.5 U

Notes:

Units = µg/L

U = not detected

J = estimated value

R = result rejected

**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: PZ-TF-09B SAMPLE ID: PZTF09B02XX SAMPLE DATE: 05/08/02 LAB ID: E2528-5	PZ-TF-10B PZTF10B02XX 04/23/02 Q2528-11	TRIP BLK TBK02001 04/22/02 Q2528-14	TRIP BLK TBK02002 04/24/02 Q2528-19	TRIP BLK TBK02003 04/25/02 T2528-12	TRIP BLK TBK02004 04/26/02 V2528-7	TRIP BLK TBK02005 04/29/02 V2528-13	TRIP BLK TBK02006 04/30/02 Y2528-3
1,1,1-Trichloroethane	0.5 U	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.9	33 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	1	57 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	3 U	1 JB	3 B	2 JB	3 B	4 B
Benzene	0.5 U	0.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.7	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.05 JB	0.05 J	0.02 JB	0.03 JB	0.5 U	0.03 J
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	2	610	0.5 U	0.04 J	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U
Methyl ethyl ketone	R	R	3 U	3 U	3 U	3 U	3 U	3 U
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.5 U	0.5 U	0.1 J	0.1 JB	0.3 JB	0.2 J	0.3 J	0.3 J
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	170	0.05 JB	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.1 J	0.1 J	0.2 JB	0.1 JB	0.2 J	0.1 J	0.2 J
trans-1,2-Dichloroethene	0.5 U	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	7	3800	0.5 U	0.2 JB	0.5 U	0.2 JB	0.1 JB	0.5 U
Vinyl chloride	5 U	13	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:  
Units = µg/L  
U = not detected  
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R = result rejected

**ANALYTICAL DATA SUMMARY TABLE**  
**VOLATILE ORGANICS ANALYSIS**  
**SPRING 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: TRIP BLK SAMPLE ID: TBK02007 SAMPLE DATE: 05/01/02 LAB ID: Y2528-18	TRIP BLK TBK02008 05/02/02 B2528-10	TRIP BLK TBK02009 05/03/02 Z2528-19	TRIP BLK TBK02010 05/06/02 B2528-21	TRIP BLK TBK02011 05/07/02 E2528-4	TRIP BLK TBK02012 05/08/02 E2528-7	WC-10S WC10S02XX 04/30/02 Y2528-1	WC-12S WC12S02XD 05/03/02 Z2528-8
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9	2300
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 J
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	10	120
1,1-Dichloroethene	0.09 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	34	700
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.8	4 J
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	2 JB	4 B	3	3 B	2 JB	3 B	R	R
Benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.09 J	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.05 J	0.04 J	0.05 J	0.5 U	0.04 J	0.05 J	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	0.06 J	0.03 J	0.5 U	0.2 JB	0.03 J	0.05 JB	53	2
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 J
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	R	R
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.3 JB	0.3 JB	0.3 JB	0.4 JB	0.1 JB	0.2 JB	0.5 U	0.6 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.1 JB	0.2 JB	0.5 U	0.5 U	0.5 U	0.5 U	3
Toluene	0.1 JB	0.2 JB	0.2 JB	0.1 JB	0.1 J	0.2 JB	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 J
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.03 J	0.5 U	0.5 U	0.04 J	0.08 J	17	120
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2	11
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

Units = µg/L

U = not detected

J = estimated value

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	WC-12S SAMPLE ID: WC12S02XX SAMPLE DATE: 05/03/02 LAB ID: Z2528-5	WC-14S WC14S02XX 04/29/02 V2528-9	WC-18D1 WC18D102XX 05/07/02 E2528-1	WC-19D1 WC19D102XX 04/30/02 V2528-17	WC-19S WC19S02XX 04/30/02 V2528-18	WC-1S WC1S02XD 05/01/02 Y2528-16	WC-1S WC1S02XX 05/01/02 Y2528-5	WC-2D WC2D02XX 05/03/02 Z2528-4
1,1,1-Trichloroethane	2200	0.5 U	5	1	0.5 U	3	3	15
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9
1,1-Dichloroethane	130	3	36	2	0.5 U	2	2	62
1,1-Dichloroethene	590	0.5 U	33	16	0.5 U	0.6 J	0.6 J	23
1,2-Dichloroethane	0.5 UJ	0.5 U	1	1	0.5 U	0.5 U	0.5 U	1
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	0.5 U	0.7	0.5 U	0.5 U	0.5 U	2
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6
Cis-1,2-Dichloroethene	58	1	120	23	150	2 J	2 J	1000
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	4.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Methyl ethyl ketone	R	R	R	1 J	0.8 J	R	R	2 J
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.6 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	2	0.5 U	3	290	110	1 J	2 J	0.8
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 J	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	7
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	81	10	61	16	8	2 J	2 J	12
Vinyl chloride	8	0.6 U	13	0.5 U	3 U	0.5 U	0.5 U	690
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1

Notes:

Units = µg/L

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: WC-3S SAMPLE ID: WC3S02XX SAMPLE DATE: 05/06/02 LAB ID: B2528-20	WC-4S WC4S02XX 04/25/02 T2528-10	WC-5S WC5S02XX 05/01/02 Y2528-19	WC-9D2 WC9D02XX 05/06/02 B2528-12	WC-9S WC9S02XX 05/06/02 B2528-13	WC1-1S WC11S02XX 05/07/02 E2528-2	WC2-1D WC21D02XX 04/26/02 V2528-4	WC2-1I WC21I02XX 04/26/02 V2528-5
1,1,1-Trichloroethane	2	110	84 U	0.5 U	0.5 U	0.5 U	8	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2	120	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	190	84 U	0.5 U	1	0.5 UJ	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	2	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	12 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	84 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 UJ	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	0.8	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	2	2100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	0.5 U	43	84 U	0.5 U	7	0.5 J	0.5 U	0.5 U
Cis-1,3-Dichloropropene	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	31 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	210 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	R	R	R	R	R	R	3 U	3 U
Methyl isobutyl ketone	3 U	3 U	210 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	5 U	0.5 U	84 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	5	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	5 U	0.5 U	84 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	12	290 J	0.5 U	18	0.5 U	6	0.5 U
Vinyl chloride	0.5 U	32	84 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes, Total	0.5 U	0.5 U	83 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

Units = µg/L

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: WC2-1S SAMPLE ID: WC21S02XX SAMPLE DATE: 04/29/02 LAB ID: V2528-10	WC2-2D WC22D02XX 05/01/02 Y2528-6	WC2-2I WC22I02XX 05/03/02 Z2528-6	WC2-3D WC23D02XX 05/03/02 Z2528-3	WC2-3I WC23I02XX 05/06/02 B2528-18	WC2-3S WC23S02XX 05/03/02 Z2528-7	WC2-4I WC24I02XX 04/29/02 V2528-11	WC2-4S WC24S02XX 04/29/02 V2528-12
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	7	2	5
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 J	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2	3	4	0.5	7	2	120	50
1,1-Dichloroethene	0.5 U	1	0.5 U	4	10	0.5 U	41	23
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	1	0.5 U	0.5	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	1	0.5 U	0.6	0.5 U	0.5 U	4	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	11	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	4
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	3	8	5	120	280	0.5 U	120	2
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	3 U	R	R	R	2 J	R	R	3 U
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	R	0.8	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	1	0.5 U	6	24	0.5 U	5	1
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.7	3	0.5 U	7	0.5 U	0.6	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	33	6	150	530	0.5 U	5	3
Vinyl chloride	1 U	0.5 U	0.5	2	7	0.5 U	30	13
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:  
Units = µg/L  
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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	WC2-5S WC25S02XX 04/30/02 Z2528-1	WC2-6I WC26I02XX 04/25/02 T2528-9	WC3-1D WC31D02XD 05/02/02 B2528-9	WC3-1D WC31D02XX 05/02/02 B2528-5	WC3-1I WC31I02XX 05/02/02 B2528-6	WC3-2D WC32D02XX 05/02/02 B2528-7	WC3-2I WC32I02XX 05/02/02 B2528-8
1,1,1-Trichloroethane	14	0.5 U	0.5 U	0.5 U	170	0.5 U	6
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	380	3	0.5 U	0.5 U	32 J	0.5 U	15
1,1-Dichloroethene	90	0.6	0.5 U	0.5 U	1800	0.5 U	19
1,2-Dichloroethane	1	0.5 U	0.5 U	0.5 U	96	0.5 U	1
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U
Acetone	R	R	R	R	R	R	R
Benzene	1	0.5 U	0.5 U	0.5 U	2	0.5 U	1
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	43	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9
Chloroform	0.5	0.5 U	0.5 U	0.5 U	11	0.5 U	1
Cis-1,2-Dichloroethene	200	0.8	4	4	440	0.5 U	72
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	0.6 J	R	15 J	12 J	2 J	R	2 J
Methyl isobutyl ketone	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Methylene chloride	0.5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	10	0.5 J	0.5 U	0.5 U	1400	0.5 U	250
Toluene	0.5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	54	1	11	9	280	0.7 U	65
Vinyl chloride	54	19	5 U	5 U	5	0.5 U	0.7
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

Units = µg/L

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**ANALYTICAL DATA SUMMARY TABLE  
VOLATILE ORGANICS ANALYSIS  
SPRING 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

PARAMETER	LOCATION: WC5-1D SAMPLE ID: WC51D02XX SAMPLE DATE: 05/06/02 LAB ID: B2528-16	WC5-1S WC51S02XX 04/26/02 V2528-6	WC5-2I WC52I02XX 05/06/02 B2528-17	WC5-2S WC52S02XX 05/07/02 E2528-3	WC5-3S WC53S02XX 05/06/02 B2528-19	WC6-1I WC61I02XX 04/30/02 Y2528-2
1,1,1-Trichloroethane	0.5 U	2 J	0.5 U	0.5 U	0.6 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	15	2	0.5 U	1	0.5 U
1,1-Dichloroethene	0.5 U	60	0.6	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	R	R	R	R	R	R
Benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Carbon tetrachloride	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorodibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cis-1,2-Dichloroethene	0.5 U	66	0.5 J	0.5 U	0.5 U	0.7
Cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone	3 U	3 U	3 U	3 U	3 U	3 U
Methyl chloride	0.5 U	0.5 U	0.7 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone	R	3 U	R	R	R	R
Methyl isobutyl ketone	3 U	0.5 U	3 U	3 U	3 U	3 U
Methylene chloride	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	1	4	0.5 U	2	0.5 U
Toluene	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	36	0.8	0.5 U	0.5 U	10 J
Vinyl chloride	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylenes, Total	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

**Notes:**

Units = µg/L

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**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

<b>Location:</b> HESE-01-12D		HESE-01-12I	HESE-01-14I	HESE-01-15I	HESE-01-16I	HESE-01-17D	HESE-01-17I	HESE-01-18D
<b>Sample ID:</b> HESE0112D02XX		HESE0112I02XX	HESE0114I02XX	HESE0115I02XX	HESE0116I02XX	HESE0117D02XX	HESE0117I02XX	HESE0118D02XX
<b>Sample Date:</b> 04/23/02		04/23/02	04/23/02	04/24/02	04/25/02	04/25/02	04/25/02	04/25/02
<b>Lab Sample ID:</b> Q2528-5		Q2528-6	Q2528-7	Q2528-16	T2528-4	T2528-6	T2528-5	T2528-7
<b>Method</b>	<b>Parameter</b>	<b>Units</b>						
300	Chloride	mg/L	2880	1410	892	10900	7010	2970
	Nitrate+Nitrite as N	mg/L						
	Sulfate	mg/L	532	197	156	1640	36.2	373
310.1	Alkalinity, as CaCO3	mg/L	80	98	274	367	738	162
353.2	Nitrate+Nitrite as N	mg/L	13.2	35.1	0.05 U	0.05 U	0.05 U	0.05 U
415.1	Total Organic Carbon	mg/L	5 U	13.5	6	5 U	14.7	5 U
RSK 175	Ethane	µg/L	1.5 U	1.5 U	3 U	1.5 U	15 U	1.5 U
	Ethene	µg/L	1.5 U	1.5 U	3 U	1.5 U	15 U	1.5 U
	Methane	µg/L	1	1	20	1	280	16
SW6010B	Manganese	µg/L	9000	6640	2800	5970	6410	13300

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**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Units	Location: MW-1		MW-2		MW-4		MWCD-9901A		MWCD-9901B		MWCD-9902A		MWCD-9902B		PZ-11D
			Sample ID: MW102XX	Sample Date: 04/26/02	MW202XX	04/26/02	MW402XX	04/25/02	MWCD9901A02XX	05/01/02	MWCD9901B02XX	05/01/02	MWCD9902A02XX	05/01/02	MWCD9902B02XX	05/01/02	
	Lab Sample ID: V2528-1				V2528-2		T2528-8		Y2528-11		Y2528-12		Y2528-13		Y2528-14		B2528-1
300	Chloride	mg/L	85.4		276		1300		9960		4190		10900		3250		1380 J
	Nitrate+Nitrite as N	mg/L															
	Sulfate	mg/L	25.9		5 U		213		1270		393		1640		338		98.3
310.1	Alkalinity, as CaCO3	mg/L	82		334		336		250		160		186		149		135
353.2	Nitrate+Nitrite as N	mg/L	1.53		0.05 U		0.05 U		0.05 U		0.05 U		0.346		0.05 U		0.05 U
415.1	Total Organic Carbon	mg/L	5 U		12.7		11.7		5 U		5 U		5 U		5 U		6.56
RSK 175	Ethane	µg/L	1.5 U		15 U		1.5 U		1.5 U		1.5 U		1.5 U		1.5 U		1.5 U
	Ethene	µg/L	1.5 U		15 U		1.5 U		1.5 U		1.5 U		1.5 U		1.5 U		1.5 U
	Methane	µg/L	1 U		160		1 U		15		12		1 U		2		2
SW6010B	Manganese	µg/L	0.85 U		2210		1330		605		15300		0.3 U		13300		7.2 J

**Notes:**

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**APPENDIX -  
ANALYTICAL RESULTS SUMMARY  
WATER CHEMISTRY DATA  
MAY 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT**

		Location: PZ-13D		PZ-16D	PZ-17D	PZ-1D	PZ-4D	PZ-5D	PZ-8D	PZ-99-02B
		Sample ID: PZ13D02XX		PZ16D02XX	PZ17D02XX	PZ1D02XX	PZ4D02XX	PZ5D02XX	PZ8D02XX	PZ9902B02XX
		Sample Date: 05/02/02		04/29/02	04/26/02	05/01/02	04/25/02	05/01/02	05/03/02	05/02/02
		Lab Sample ID: B2528-4		V2528-8	V2528-3	Y2528-4	T2528-11	Y2528-15	Z2528-2	Y2528-20
Method	Parameter	Units								
300	Chloride	mg/L	309	65.9	6320	923	2130	2720	2.21	109
	Nitrate+Nitrite as N	mg/L								
	Sulfate	mg/L	64.4	45.3	787	217	14.3	5 U	5 U	1400
310.1	Alkalinity, as CaCO3	mg/L	91	257	131	169	434	118	43	10 U
353.2	Nitrate+Nitrite as N	mg/L	0.392	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.846	0.153
415.1	Total Organic Carbon	mg/L	5 U	8.12	5 U	5.2	6.63	75.7	5 U	5 U
RSK 175	Ethane	µg/L	1.5 U	3 U	1.5 U	1.5 U	30 U	75 U	1.5 U	1.5 U
	Ethene	µg/L	1.5 U	3 U	1.5 U	1.5 U	30 U	75 U	1.5 U	1.5 U
	Methane	µg/L	1 U	16	2	20	50	360	1 U	1 U
SW6010B	Manganese	µg/L	427	416	18600	3030	3440	16800	0.25 J	55700

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**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

<b>Location:</b> PZ-99-03		<b>PZ-99-04I</b>	<b>PZ-9D</b>	<b>PZ-TF-01B</b>	<b>PZ-TF-02A</b>	<b>PZ-TF-02B</b>	<b>PZ-TF-03A</b>
<b>Sample ID:</b> PZ990302XX		<b>PZ9904I02XX</b>	<b>PZ9D02XD</b>	<b>PZTF01B02XX</b>	<b>PZTF02A02XX</b>	<b>PZTF02B02XX</b>	<b>PZTF03A02XX</b>
<b>Sample Date:</b> 05/02/02		05/02/02	05/06/02	04/23/02	04/24/02	04/24/02	05/01/02
<b>Lab Sample ID:</b> B2528-2		<b>B2528-3</b>	<b>B2528-15</b>	<b>Q2528-8</b>	<b>Q2528-17</b>	<b>Q2528-18</b>	<b>Y2528-7</b>
<b>Method</b>	<b>Parameter</b>	<b>Units</b>	<b>mg/L</b>	<b>mg/L</b>	<b>mg/L</b>	<b>mg/L</b>	<b>mg/L</b>
300	Chloride	mg/L	1390	1630	5730	5460	6970
	Nitrate+Nitrite as N	mg/L	243	277	530	641	466
	Sulfate	mg/L	193	93	213	131	819
310.1	Alkalinity, as CaCO3	mg/L	12.7	0.05 U	0.05 U	0.05 UJ	0.05 U
353.2	Nitrate+Nitrite as N	mg/L	13.4	5 U	5 U	5 U	19.6
415.1	Total Organic Carbon	mg/L	1.5 U	1.5 U	7.5 U	1.5 U	15 U
RSK 175	Ethane	µg/L	1.5 U	1.5 U	7.5 U	1.5 U	15 U
	Ethene	µg/L	2	1 U	35	1 U	170
	Methane	µg/L	3810	1430	5690	22400	3050
SW6010B	Manganese	µg/L			2920		

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APPENDIX \_  
ANALYTICAL RESULTS SUMMARY  
WATER CHEMISTRY DATA  
MAY 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Method	Parameter	Units	Location: PZ-TF-03B Sample ID: PZTF03B02XX Sample Date: 04/24/02 Lab Sample ID: Q2528-20	PZ-TF-04B PZTF04B02XX 04/23/02 Q2528-9	PZ-TF-05A PZTF05A02XX 05/01/02 Y2528-8	PZ-TF-05B PZTF05B02XD 05/01/02 Y2528-17	PZ-TF-05B PZTF05B02XX 05/01/02 Y2528-9	PZ-TF-06B PZTF06B02XX 04/23/02 Q2528-10	PZ-TF-07A PZTF07A02XX 05/01/02 Y2528-10	PZ-TF-07B PZTF07B02XX 04/30/02 V2528-15
300	Chloride	mg/L	6390	4100	8270	4390	4540	5720	9930	4470
	Nitrate+Nitrite as N	mg/L								
	Sulfate	mg/L	674	378	696	502	488	452	801	351
310.1	Alkalinity, as CaCO3	mg/L	139	189	797	125	128	716	662	241
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	0.05 U	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
415.1	Total Organic Carbon	mg/L	5 U	5 U	29	8.62	5 U	7.762	34.9	5 U
RSK 175	Ethane	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	30 U	30 U	3 U
	Ethene	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	30 U	30 U	3 U
	Methane	µg/L	1 U	14	1 U	1 U	1	110	270	22
SW6010B	Manganese	µg/L	25400	10400	998	20900	21100	6180	896	8570

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**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Units	Location: PZ-TF-08B	PZ-TF-09A	PZ-TF-09B	PZ-TF-10B	WC-10S	WC-12S	WC-12S	WC-14S
			Sample ID: PZTF08B02XX	PZTF09A02XX	PZTF09B02XX	PZTF10B02XX	WC10S02XX	WC12S02XX	WC12S02XX	WC14S02XX
			Sample Date: 04/30/02	05/08/02	05/08/02	04/23/02	04/30/02	05/03/02	05/03/02	04/29/02
			Lab Sample ID: V2528-16	E2528-6	E2528-5	Q2528-11	Y2528-1	Z2528-8	Z2528-5	V2528-9
300	Chloride	mg/L	6760	10200	9680	9480	54.7	91.7	91.6	26.2
	Nitrate+Nitrite as N	mg/L					2.1			
	Sulfate	mg/L	811	1420	1270	1230	29.1	42	40.4	11.6
310.1	Alkalinity, as CaCO3	mg/L	243	160	122	152	115	60	66	50
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	1.36	0.05 U	0.05 U		1.91	1.9	0.05 U
415.1	Total Organic Carbon	mg/L	5 U	5.56	5 U	5 U	5 U	7.31	5 U	9.35
RSK 175	Ethane	µg/L	1.5 U	7.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Ethene	µg/L	1.5 U	7.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Methane	µg/L	1 U	35	2	12	1	1 U	1 U	1 U
SW6010B	Manganese	µg/L	17500	1710	11400	1330	10	1.9 J	3.8 J	14.9

**Notes:**

U = not detected

J = estimated value

**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Units	Location: WC-18D1	WC-19D1	WC-19S	WC-1S	WC-1S	WC-2D	WC-3S	WC-4S
			Sample ID: WC18D102XX	WC19D102XX	WC19S02XX	WC1S02XD	WC1S02XX	WC2D02XX	WC3S02XX	WC4S02XX
			Sample Date: 05/07/02	04/30/02	04/30/02	05/01/02	05/01/02	05/03/02	05/06/02	04/25/02
			Lab Sample ID: E2528-1	V2528-17	V2528-18	Y2528-16	Y2528-5	Z2528-4	B2528-20	T2528-10
300	Chloride	mg/L	4430	1460	19.9		42.8	1690	10300	6.98
	Nitrate+Nitrite as N	mg/L		187	38.4		0.073	108	1120	12.3
	Sulfate	mg/L	642	35	33		6.67	225	233	10 U
310.1	Alkalinity, as CaCO3	mg/L	96				77		0.05 U	0.639
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	0.05 U	2			0.05 U	5.38	5 U
415.1	Total Organic Carbon	mg/L	6.93	5 U	5 U		5 U	6.98	1.5 U	1.5 U
RSK 175	Ethane	µg/L	1.5 UJ	1.5 U	1.5 U	1.5 U	1.5 U	30 U	1.5 U	1.5 U
	Ethene	µg/L	1.5 UJ	1.5 U	1.5 U	1.5 U	1.5 U	30 U	1.5 U	1.5 U
	Methane	µg/L	2 J	1 U	11	21	15	350	27	1 U
SW6010B	Manganese	µg/L	2130	6070	228		719	8360	631	57.7

**Notes:**

U = not detected

J = estimated value

**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Units	Location: WC-5S	WC-9D2	WC-9S	WC1-1S	WC2-1D	WC2-1I	WC2-1S	WC2-2D
			Sample ID: WC5S02XX	WC9D202XX	WC9S02XX	WC11S02XX	WC21D02XX	WC21I02XX	WC21S02XX	WC22D02XX
			Sample Date: 05/01/02	05/06/02	05/06/02	05/07/02	04/26/02	04/26/02	04/29/02	05/01/02
			Lab Sample ID: Y2528-19	B2528-12	B2528-13	E2528-2	V2528-4	V2528-5	V2528-10	Y2528-6
300	Chloride	mg/L	146	11700	48.4	29.8	13100	6950	41.9	10700
	Nitrate+Nitrite as N	mg/L								
	Sulfate	mg/L	5 U	1500	27.6	27.3	1360	809	8.4	1590
310.1	Alkalinity, as CaCO3	mg/L	272	281	64	54	527	243	145	211
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	0.05 U	0.343	1.31	0.05 UJ	0.05 U	0.253	0.05 U
415.1	Total Organic Carbon	mg/L	34.3	6.36	5 U	5 U	5 U	5 U	11.9	12.2
RSK 175	Ethane	µg/L	38 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7.5 U	1.5 U
	Ethene	µg/L	38 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7.5 U	1.5 U
	Methane	µg/L	550	1 U	2	1 U	1 U	1 U	49	1
SW6010B	Manganese	µg/L	1360	5520	51.3	26.7	7370	8120	115	1530

**Notes:**

U = not detected

J = estimated value

APPENDIX \_  
ANALYTICAL RESULTS SUMMARY  
WATER CHEMISTRY DATA  
MAY 2002 RI GROUNDWATER PROGRAM  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Method	Parameter	Units	Location: WC2-2I	WC2-3D	WC2-3I	WC2-3S	WC2-4I	WC2-4S	WC2-5I	WC2-5S
			Sample ID: WC22I02XX	WC23D02XX	WC23I02XX	WC23S02XX	WC24I02XX	WC24S02XX	WC25I02XX	WC25S02XX
			Sample Date: 05/03/02	05/03/02	05/06/02	05/03/02	04/29/02	04/29/02	04/30/02	04/30/02
			Lab Sample ID: Z2528-6	Z2528-3	B2528-18	Z2528-7	V2528-11	V2528-12	V2528-19	Z2528-1
300	Chloride	mg/L	3610	6420	4500	4700	491	49.2	6130	19.9
	Nitrate+Nitrite as N	mg/L								
	Sulfate	mg/L	181	845	319	489	72.1	14.7	1090	11.7
310.1	Alkalinity, as CaCO3	mg/L	299	107	208	274	193	89	89	27
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	0.05 U	0.05 U	0.12	0.05 U	0.201	0.05 U	3
415.1	Total Organic Carbon	mg/L	5 U	5 U	12.9	5.8	11.9	5 U	5.06	5 U
RSK 175	Ethane	µg/L	7.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Ethene	µg/L	7.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Methane	µg/L	67	1	1 U	1 U	17	1 U	12	1 UJ
SW6010B	Manganese	µg/L	9550	8340	11400	68	291	129	2840	0.43 J

Notes:

U = not detected

J = estimated value

**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Units	Location: WC2-6I	WC3-1D	WC31D02XX	WC3-1I	WC3-2D	WC3-2I	WC5-1D	WC5-1S
	Sample ID: WC26I02XX			WC31D02XD	WC31D02XX	WC31I02XX	WC32D02XX	WC32I02XX	WC51D02XX	WC51S02XX
	Sample Date: 04/25/02			05/02/02	05/02/02	05/02/02	05/02/02	05/02/02	05/06/02	04/26/02
	Lab Sample ID: T2528-9			B2528-9	B2528-5	B2528-6	B2528-7	B2528-8	B2528-16	V2528-6
300	Chloride	mg/L	4790	8400	8430	546	4180	232	15100	111
	Nitrate+Nitrite as N	mg/L								
	Sulfate	mg/L	473	905	1010	84.4	629	55.3	1930	19.9
310.1	Alkalinity, as CaCO3	mg/L	168	145	142	137	158	102	259	114
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.623	0.05 U	0.05 U	0.48
415.1	Total Organic Carbon	mg/L	5 U	8.54	6.78	5.58	5 U	6.79	16.2	5 U
RSK 175	Ethane	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Ethene	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
	Methane	µg/L	12	1 U	1 U	10	1 U	11	1	1 U
SW6010B	Manganese	µg/L	5350	9300	9410	664	13400	2250	5470	185

**Notes:**

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J = estimated value

**APPENDIX \_**  
**ANALYTICAL RESULTS SUMMARY**  
**WATER CHEMISTRY DATA**  
**MAY 2002 RI GROUNDWATER PROGRAM**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Method	Parameter	Location: WC5-2I		WC5-2S		WC5-3S		WC6-1I	
		Sample ID: WC52I02XX	Sample Date: 05/06/02	WC52S02XX	05/07/02	WC53S02XX	05/06/02	WC61I02XX	04/30/02
		Lab Sample ID: B2528-17		E2528-3		B2528-19		Y2528-2	
	Units								
300	Chloride	mg/L	521	39.1		115		2920	
	Nitrate+Nitrite as N	mg/L							
	Sulfate	mg/L	53.3	11.3		29		385	
310.1	Alkalinity, as CaCO3	mg/L	225	68		69		99	
353.2	Nitrate+Nitrite as N	mg/L	0.05 U	1.11		0.782		0.05 U	
415.1	Total Organic Carbon	mg/L	6.33	5 U		5 U		5 U	
RSK 175	Ethane	µg/L	1.5 U	1.5 U		1.5 U		1.5 U	
	Ethene	µg/L	1.5 U	1.5 U		1.5 U		1.5 U	
	Methane	µg/L	1 U	1 U		1 U		1 U	
SW6010B	Manganese	µg/L	1580	0.3 U		6.9 J		2580	

**Notes:**

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J = estimated value



**APPENDIX**  
**ANALYTICAL RESULTS SUMMARY**  
**CHEMICAL OXYGEN DEMAND**  
**MAY 2002 RI GROUNDWATER**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Location: HESE-01-12D		HESE-01-12I	HESE-01-14I	HESE-01-15I	HESE-01-16I	HESE-01-17D	HESE-01-17I	HESE-01-18D
Sample ID: HESE0112D02XX		HESE0112I02XX	HESE0114I02XX	HESE0115I02XX	HESE0116I02XX	HESE0117D02XX	HESE0117I02XX	HESE0118D02XX
Sample Date: 04/23/02		04/23/02	04/23/02	04/24/02	04/25/02	04/25/02	04/25/02	04/25/02
Lab Sample ID: S2528-1		S2528-2	S2528-3	S2528-8	S2528-12	S2528-14	S2528-13	S2528-15
Parameter	Units							
COD	mg/L	225	36	44	42	146	114	53

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location: MW-1	MW-2	MW-4	MWCD-9901A	MWCD-9901B	MWCD-9902A	MWCD-9902B	PZ-11D
Sample ID: MW102XX	MW202XX	MW402XX	MWCD9901A02XX	MWCD9901B02XX	MWCD9902A02XX	MWCD9902B02XX	PZ11D02XX
Sample Date: 04/26/02	04/26/02	04/25/02	05/01/02	05/01/02	05/01/02	05/01/02	05/02/02
Lab Sample ID: W2528-1	W2528-2	S2528-16	A2528-8	A2528-9	A2528-10	A2528-15	C2528-1
Parameter							
COD	28	32	603	64	650	36	5.8
Units							
mg/L							

Method SM 5220D

**APPENDIX**  
**ANALYTICAL RESULTS SUMMARY**  
**CHEMICAL OXYGEN DEMAND**  
**MAY 2002 RI GROUNDWATER**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Location: PZ-13D		PZ-16D	PZ-17D	PZ-1D	PZ-4D	PZ-5D	PZ-8D	PZ-99-02B
Sample ID: PZ13D02XX		PZ16D02XX	PZ17D02XX	PZ1D02XX	PZ4D02XX	PZ5D02XX	PZ8D02XX	PZ9902B02XX
Sample Date: 05/02/02		04/29/02	04/26/02	05/01/02	04/25/02	05/01/02	05/03/02	05/02/02
Lab Sample ID: C2528-5		W2528-7	W2528-3	A2528-1	S2528-19	A2528-11	C2528-11	C2528-2
Parameter	Units							
COD	mg/L	21	98	26	50	41	8.2	36.3

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location: PZ-99-03	PZ-99-04I	PZ-9D	PZ-TF-01B	PZ-TF-02A	PZ-TF-02B	PZ-TF-03A
Sample ID: PZ990302XX	PZ9904I02XX	PZ9D02XD	PZTF01B02XX	PZTF02A02XX	PZTF02B02XX	PZTF03A02XX
Sample Date: 05/02/02	05/02/02	05/06/02	04/23/02	04/24/02	04/24/02	05/01/02
Lab Sample ID: C2528-3	C2528-4	D2528-4	S2528-4	S2528-9	S2528-10	A2528-4
Parameter						
COD	28.5	19	17	295	74	668
mg/L						

Method SM 5220D

Location:	PZ-TF-03B	PZ-TF-04B	PZ-TF-05A	PZ-TF-05B	PZ-TF-06B	PZ-TF-07A	PZ-TF-07B
Sample ID:	PZTF03B02XX	PZTF04B02XX	PZTF05A02XX	PZTF05B02XD	PZTF06B02XX	PZTF07A02XX	PZTF07B02XX
Sample Date:	04/24/02	04/23/02	05/01/02	05/01/02	04/23/02	05/01/02	04/30/02
Lab Sample ID:	S2528-11	S2528-5	A2528-5	A2528-13	A2528-6	A2528-7	W2528-12
Parameter	Units						
COD	mg/L	83	58	56	66	752	304

SAEP 2002 Spring GW Table II.xls

**APPENDIX**  
**ANALYTICAL RESULTS SUMMARY**  
**CHEMICAL OXYGEN DEMAND**  
**MAY 2002 RI GROUNDWATER**  
**STRATFORD ARMY ENGINE PLANT**  
**STRATFORD, CONNECTICUT**

Location: PZ-TF-08B		PZ-TF-09A	PZ-TF-09B	PZ-TF-10B	WC-10S	WC-12S	WC-14S
Sample ID: PZTF08B02XX		PZTF09A02XX	PZTF09B02XX	PZTF10B02XX	WC10S02XX	WC12S02XD	WC14S02XX
Sample Date: 04/30/02		05/08/02	05/08/02	04/23/02	04/30/02	05/03/02	04/29/02
Lab Sample ID: W2528-13		D2528-14	D2528-13	S2528-7	W2528-14	C2528-17	W2528-8
Parameter	Units	135	89	136	9	5 U	9
COD	mg/L						

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location:	WC-18D1	WC-19D1	WC-19S	WC-1S	WC-2D	WC-3S	WC-4S
Sample ID:	WC18D102XX	WC19D102XX	WC19S02XX	WC1S02XD	WC2D02XX	WC3S02XX	WC4S02XX
Sample Date:	05/07/02	04/30/02	04/30/02	05/01/02	05/03/02	05/06/02	04/25/02
Lab Sample ID:	D2528-10	W2528-15	W2528-16	A2528-12	C2528-13	D2528-9	S2528-18
Parameter							
COD	27	5 U	8	8	6.7	544	63
Units	mg/L						

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location:	WC-5S	WC-9D2	WC-9S	WC1-1S	WC2-1D	WC2-1I	WC2-1S	WC2-2D
Sample ID:	WC5S02XX	WC9D202XX	WC9S02XX	WC11S02XX	WC21D02XX	WC21I02XX	WC21S02XX	WC22D02XX
Sample Date:	05/01/02	05/06/02	05/06/02	05/07/02	04/26/02	04/26/02	04/29/02	05/01/02
Lab Sample ID:	A2528-14	D2528-1	D2528-2	D2528-11	W2528-4	W2528-5	W2528-9	A2528-3
Parameter								
COD	64	417	5 U	14	181	139	22	648
Units	mg/L							

Method SM 5220D



APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location:	WC2-2I	WC2-3D	WC2-3I	WC2-3S	WC2-4I	WC2-4S	WC2-5I	WC2-5S
Sample ID:	WC22I02XX	WC23D02XX	WC23I02XX	WC23S02XX	WC24I02XX	WC24S02XX	WC25I02XX	WC25S02XX
Sample Date:	05/03/02	05/03/02	05/06/02	05/03/02	04/29/02	04/29/02	04/30/02	04/30/02
Lab Sample ID:	C2528-15	C2528-12	D2528-7	C2528-16	W2528-10	W2528-11	W2528-17	W2528-18
Parameter								
COD	30	56	46	50	6	9	116	5 U
	mg/L							

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location:	WC2-6I	WC3-1D	WC3-1I	WC3-2D	WC3-2I	WC5-1D	WC5-1S
Sample ID:	WC26I02XX	WC31D02XD	WC31I02XX	WC32D02XX	WC32I02XX	WC51D02XX	WC51S02XX
Sample Date:	04/25/02	05/02/02	05/02/02	05/02/02	05/02/02	05/06/02	04/26/02
Lab Sample ID:	S2528-17	C2528-10	C2528-7	C2528-8	C2528-9	D2528-5	W2528-6
Parameter							
COD	62	86.2	5 U	30.3	15.4	1190	7
Units	mg/L						

Method SM 5220D

APPENDIX  
ANALYTICAL RESULTS SUMMARY  
CHEMICAL OXYGEN DEMAND  
MAY 2002 RI GROUNDWATER  
STRATFORD ARMY ENGINE PLANT  
STRATFORD, CONNECTICUT

Location:	WC5-2I	WC5-2S	WC5-3S	WC6-1I
Sample ID:	WC52I02XX	WC52S02XX	WC53S02XX	WC61I02XX
Sample Date:	05/06/02	05/07/02	05/06/02	04/30/02
Lab Sample ID:	D2528-6	D2528-12	D2528-8	W2528-19
Parameter	Units			
COD	mg/L	5 U	11	41

Method SM 5220D

**C-3**

**NAE LABORATORY DATA VALIDATION REPORT**

**Data Evaluation Report  
for  
Stratford Army Engine Plant, Stratford, CT  
Samples Collected June 15, 2001**

## **Introduction**

Nineteen groundwater samples were collected from the Stratford Army Engine Plant site in Stratford, CT. The samples were analyzed at Severn Trent Laboratories in Colchester VT for Volatile Organic Compounds (VOCs). The samples were collected on June 15, 2001. Results are summarized in the attached Table 2. Analytes summarized in the table are detected analytes only. The laboratory reported a more comprehensive list of VOCs than shown in Table 2.

The results were evaluated for acceptability in accordance with the laboratory's defined acceptance limits, standard EPA SW846 guidance, and/or guidelines provided in the draft USACE Methods Compendium document.

## **Sample Shipment and Receipt**

All sample coolers were packed with ice in the field. Sample shipments were received at the laboratory on June 16, 2001. Preservation requirements for VOCs are shown in Table 1. Samples were appropriately preserved except that the samples arrived at the laboratory at a temperature of 10 degrees Celsius. Due to the storage temperature exceedance, all values are qualified as estimated in Table 2.

## **Holding Times**

Samples were analyzed in accordance with the methods and holding time requirements cited in Table 1. One sample (D-9) required dilution due to the concentration of Chloroethane which exceeded the calibration range. The sample was re-analyzed 13 days beyond the holding time. The original analysis occurred with required holding time. Results for Chloroethane shown in Table 2 are qualified as estimated due to the holding time exceedance. Chloroethane is the only analyte reported from the dilution analysis (of sample D-9) shown in Table 2.

## **Volatile Organic Compound (VOC) Analysis**

Nineteen groundwater samples were analyzed for VOCs using SW846 method 8260B. Quality control (QC) results are summarized below.

Laboratory Method Blanks: Target analytes were undetected at levels above the laboratory's practical quantitation limit (PQL) for method blank samples. All results are acceptable.

Surrogate Results: All VOC sample surrogate recoveries are within the laboratory's stated acceptance limits. All results are acceptable.

**Laboratory Control Sample (LCS) Results:** Five LCS samples were analyzed in association with the samples for this project. Most analyte recoveries are within the acceptable laboratory recovery control limits. Chloroethane is the only analyte which was detected in any sample and exceeded the LCS recovery acceptance limit. The recovery (120%) was only marginally outside the acceptance range (65-113%) and does not significantly impact the data, therefore, no further data qualification was made on this basis.

## Conclusion

Laboratory reports were reviewed for adherence to acceptable laboratory practices. Based on the data evaluation elements reviewed (including holding times, blank sample results, surrogate recoveries, and LCS recoveries), data qualification actions are summarized below:

- **Sample Shipment and Receipt:** Samples were appropriately preserved except that the samples arrived at the laboratory at a temperature of 10 degrees Celsius. Due to the storage temperature exceedance, all values are qualified as estimated in Table 2.
- **Holding Times:** One sample (D-9) required dilution due to the concentration of Chloroethane which exceeded the calibration range. The sample was re-analyzed 13 days beyond the holding time. Results for Chloroethane shown in Table 2 are qualified as estimated due to the holding time exceedance. Chloroethane is the only analyte reported from the dilution analysis (of sample D-9) shown in Table 2.

**TABLE 1**

### Sample Preparation and Analysis Methods, Containers, Holding Times, and Preservatives

Parameter	Preparation Method <sup>1</sup>	Analysis Method <sup>1</sup>	Sample Container	Minimum Volume	Preservative	Holding Time (from time of sample collection)
VOCs	5030B	8260B	3 X 40 mL vials with Teflon septa screw caps	40 mL	HCl to pH less than 2 (No Headspace) 4+/- 2°C	14 days

1 "Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", U.S. EPA SW-846, 3rd Edition.

**Table 2**  
**Stratford Army Engine Plant**  
**Summary of Analytical Results**  
**Samples Collected June 15, 2001**

Field Identification	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Laboratory Identification	456985	456986	456987	456988	456989	456990	456991	456992	456993	456994
Dichlorodifluoromethane	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.0 UJ1	1.0 UJ1
Vinyl Chloride	1.5 J1	4.0 J1	1.1 J1	4300 J1	1.0 UJ1	1.5 J1	1.6 J1	37 J1	1.0 UJ1	1.0 UJ1
Chloroethane	5.0 J1	1.0 UJ1	55 J1	2200 J1	1.1 J1	1.0 UJ1	2.0 J1	8.8 UJ1	580 J12	6.1 J1
Freon TF	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.6 J1	4.7 UJ1	14 J1	1.0 UJ1	1.0 UJ1
1,1-Dichloroethene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.6 J1	4.7 UJ1	360 J1	1.0 UJ1	1.0 UJ1
Acetone	2.7 J1	3.2 J1	5.5 J1	1100 UJ1	1.0 UJ1	3.7 J1	24 UJ1	44 UJ1	11 J1	4.9 J1
Methylene Chloride	1.0 UJ1	1.0 UJ1	0.32 J1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.0 UJ1	1.0 UJ1
trans-1,2-Dichloroethene	1.0 UJ1	1.0 UJ1	1.8 J1	1100 UJ1	1.0 J1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.0 UJ1	1.0 UJ1
Carbon Disulfide	0.36 J1	0.46 J1	0.60 J1	1100 UJ1	0.49 J1	0.52 J1	4.7 UJ1	8.8 UJ1	1.0 J1	1.0 UJ1
1,2-Dichloroethene (total)	1.9 J1	14 J1	5.6 J1	41000 J1	3.1 J1	2.4 J1	2.4 J1	79 J1	0.57 J1	2.3 J1
Methyl t-Butyl Ether	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	0.31 J1	4.7 UJ1	8.8 UJ1	1.0 UJ1	1.0 UJ1
1,1-Dichloroethane	11 J1	16 J1	5.6 J1	1100 UJ1	1.8 J1	7.9 J1	180 J1	390 J1	2.4 J1	6.0 J1
cis-1,2-Dichloroethene	1.5 J1	13 J1	3.7 J1	38000 J1	2.0 J1	2.3 J1	2.3 J1	75 J1	0.53 J1	2.2 J1
1,1,1-Trichloroethane	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	0.47 J1	4.7 UJ1	270 J1	1.0 UJ1	1.0 UJ1
Benzene	1.0 UJ1	1.0 UJ1	1.6 J1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	3.2 J1	1.0 UJ1	1.0 UJ1
1,2-Dichloroethane	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.7 J1	1.0 UJ1	1.0 UJ1
Trichloroethene	1.0 UJ1	0.32 J1	1.0 UJ1	1100 UJ1	0.89 J1	0.45 J1	4.7 UJ1	38 J1	0.30 J1	1.1 J1
1,4-Dioxane	50 UJ1	50 UJ1	89 J1	55000 UJ1	50 UJ1	50 UJ1	240 UJ1	440 UJ1	50 UJ1	50 UJ1
Tetrachloroethene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.0 J1	1.0 UJ1	1.0 UJ1
Chlorobenzene	1.0 J1	1.0 J1	3.2 J1	1100 UJ1	0.45 J1	1.0 UJ1	4.7 UJ1	8.8 UJ1	0.36 J1	24 J1
Isopropylbenzene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.0 UJ1	0.54 J1
1,4-Dichlorobenzene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.4 J1	1.0 UJ1
1,2-Dichlorobenzene	1.0 UJ1	1.0 UJ1	0.78 J1	1100 UJ1	0.60 J1	1.0 UJ1	4.7 UJ1	8.8 UJ1	1.0 UJ1	1.0 UJ1
Naphthalene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	0.40 J1	1.0 UJ1
tert-Butylbenzene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	2.4 J1	0.51 J1
sec-Butylbenzene	1.0 UJ1	1.0 UJ1	1.0 UJ1	1100 UJ1	1.0 UJ1	1.0 UJ1	4.7 UJ1	8.8 UJ1	0.32 J1	1.0 UJ1

U = Undetected at the stated laboratory reporting limit.

J = Estimated value.

1 = Estimated value, due to storage temperature exceedance.

2 = Estimated value, due to holding time exceedance.

**Table 2**  
**Stratford Army Engine Plant**  
**Summary of Analytical Results**  
**Samples Collected June 15, 2001**

Field Identification	D11	D12	D13	D14	D15	D16	D17	D18	D20
Laboratory Identification	456995	456996	456997	456998	456999	457000	457001	457002	457003
Dichlorodifluoromethane	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	5.6 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Vinyl Chloride	1.0 UJ1	1.0 UJ1	540 J1	1.0 UJ1	1.4 J1	1.0 UJ1	31 J1	8.4 J1	7.1 J1
Chloroethane	2.8 J1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	0.47 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Freon TF	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	45 J1	5.9 UJ1	0.53 J1	0.53 J1
1,1-Dichloroethene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.2 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Acetone	4.6 J1	6.2 J1	16 UJ1	5.0 UJ1	5.0 UJ1	8.7 J1	30 UJ1	12 J1	11 J1
Methylene Chloride	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
trans-1,2-Dichloroethene	0.49 J1	1.0 UJ1	5.5 J1	1.0 UJ1	0.33 J1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Carbon Disulfide	0.43 J1	1.0 J1	16 UJ1	0.42 J1	0.40 J1	0.63 J1	5.9 UJ1	0.42 J1	0.57 J1
1,2-Dichloroethene (total)	1.6 J1	0.41 J1	590 J1	1.0 UJ1	4.3 J1	1.3 J1	220 J1	15 J1	17 J1
Methyl t-Butyl Ether	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
1,1-Dichloroethane	7.4 J1	0.77 J1	66 J1	0.28 J1	6.7 J1	4.0 J1	2.7 J1	3.2 J1	3.2 J1
cis-1,2-Dichloroethene	1.0 J1	0.39 J1	550 J1	1.0 UJ1	3.8 J1	1.2 J1	210 J1	14 J1	16 J1
1,1,1-Trichloroethane	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.3 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
1,2-Dichloroethane	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Benzene	1.0 UJ1	1.0 UJ1	14 J1	1.0 UJ1	1.3 J1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Trichloroethene	1.0 UJ1	0.54 J1	16 UJ1	1.0 UJ1	0.67 J1	1.9 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
1,4-Dioxane	50 UJ1	50 UJ1	780 UJ1	50 UJ1	50 UJ1	50 UJ1	300 UJ1	50 UJ1	50 UJ1
Tetrachloroethene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	0.32 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Chlorobenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	2.2 J1	2.2 J1
Isopropylbenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
1,4-Dichlorobenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
1,2-Dichlorobenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	0.40 J1	5.9 UJ1	1.0 UJ1	1.0 UJ1
Naphthalene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
tert-Butylbenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	0.44 J1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1
sec-Butylbenzene	1.0 UJ1	1.0 UJ1	16 UJ1	1.0 UJ1	1.0 UJ1	1.0 UJ1	5.9 UJ1	1.0 UJ1	1.0 UJ1

U = Undetected at the stated laboratory reporting limit.

J = Estimated value.

1 = Estimated value, due to storage temperature exceedance.

2 = Estimated value, due to holding time exceedance.



**C-4**

**HARDING ESE ASSESSMENT AND VALIDATION OF URSGWC  
ELECTRONIC DATA DELIVERABLES**

## **Soil Validation Review Summary URSGWC 2000 Draft RI Report Electronic Data**

### **Objective and Introduction:**

Upon review of electronic data submitted to Harding ESE by URS Greiner Woodward Clyde Federal Services (URSGWC), of Wayne, New Jersey, it was observed that there were re-analyses of several soil samples (collected in 1999) reported in the 2000 Draft Remedial Investigation Report (URSGWC, 2000a). In order to conduct statistical manipulation of the data for the revised risk assessments, these re-analyses were evaluated and the data combined to produce one result for each sample parameter. The following text describes the approach and actions of this data validation.

URSGWC collected and submitted soil samples for analysis by USEPA PCB, VOC, metals and inorganics analyses. Data packages were validated by URSGWC using USEPA Contract Laboratory Program National Functional Guidelines for Organics/Inorganics Review (USEPA 1994) where applicable (URSGWC, 2000b). Data validation was performed by URSGWC (URSGWC, 2000b). Harding ESE reviewed the URSGWC electronic data deliverable and Appendix S (URSGWC, 2000b) validation documents for reanalysis results. Sample results reported in the original analysis and reanalyses were reviewed and combined by Harding ESE to report a single result.

Duplicate data (more than one result reported for a single analyte) was identified in the electronic database for soil samples presented in the 2000 Stratford Army Engine Plant Draft Remedial Investigation Report (URSGWC, 2000). Analytical results presented in the soil boring analytical results table (Appendix C, SAEP RI) and validation actions presented in the laboratory data validation report (Appendix S, SAEP RI) were reviewed and compared to the electronic database to determine a final result for each sample.

During this review the assumption was made that the data presented in Appendix C was correctly reported and unless the information from the validation reports (Appendix S) contradicted this data, the electronic database should be corrected to represent the values reported (in Appendix C). Based on this assumption, extraneous (duplicate) data presented in the electronic database was removed by placing the letter "k" in column "V" of the excel spreadsheet. A summary of the result combinations conducted by Harding ESE is provided below.

### **PCB Validation Review Summary:**

- A comment is present in the validation report indicating that the lab had incorrectly quantitated Aroclor 1260 results for sample SB19A1-1A. The dilution factor was omitted in the quantitation. Two results were reported for all Aroclors in the electronic database. Results from Table C (Appendix C) were used as the final reported values in the electronic database; duplicate results were removed from the database.

- Two results were reported for all Aroclors for sample SB22A1-2A in the electronic database. Results from Table C (Appendix C) were used as the final reported values in the electronic database; duplicate results were removed from the database.

#### **Metals Validation Review Summary:**

- The graphite furnace atomic absorption method for antimony was listed in the "METHOD" column three ways, GFFA, GFAA, GGFA. The method name was corrected for all to list as GFAA.
- The GFAA analysis for antimony had incorrect reporting limits for most of the non-detects reported. Results in the "PPMRESULTS" column were corrected to those listed in "Appendix C, Soil Sampling Results".
- Results for sodium in sample SB13J1-1A were updated with a U (143U) qualifier due to blank contamination as reported in the validation report (work group 981232).

#### **Inorganics Validation Review Summary:**

- Sample SB12B3-38 had two different results reported with two different end and start depths in the electronic copy of the data for cyanide. The result (0.53U) from Table C (Appendix C) with a start depth of 2'6" and an end depth of 4'6" was used in the electronic copy of the data; the other result was removed.
- Sample SB13J1-1A had results reported twice for the T-Inorganics parameters. Sample dates are 12/14/98 and 12/21/98. Sample date from Appendix C was 12/21/98. Results reported in appendix C were a combination of analyses from both sample collection dates. The electronic database was updated with the analysis results from the Appendix C. There is no reason mentioned for reanalysis of this sample in the validation report.

Corrections made in the electronic database not mentioned above were made by comparing the electronic database with the hardcopy data (Appendix C).

#### **References:**

URS Greiner Woodward-Clyde Federal Services 2000. "Draft Remedial Investigation Report, Stratford Army Engine plant", Appendix C and appendix S, Stratford, Connecticut, Contract Number DACW41-96D-8014, Task Order 011, March 17,2000.

## **Sediment Validation Review Summary URSGWC 2000 Draft RI Report Electronic Data**

### **Objective and Introduction:**

Upon review of electronic data submitted to Harding ESE by URS Greiner Woodward Clyde Federal Services (URSGWC), of Wayne, New Jersey, it was observed that there were re-analyses of several sediment samples (collected in 1999) reported in the 2000 Draft Remedial Investigation Report (URSGWC, 2000a). In order to conduct statistical manipulation of the data for the revised risk assessments, these re-analyses were evaluated and the data combined to produce one result for each sample parameter. The following text describes the approach and actions of this data validation.

URSGWC collected and submitted sediment samples for analysis by USEPA PCB, VOC, metals and inorganics analyses. Data packages were validated by URSGWC using USEPA Contract Laboratory Program National Functional Guidelines for Organics/Inorganics Review (USEPA 1994) where applicable (URSGWC, 2000b). Data validation was performed by URSGWC (URSGWC, 2000b). Harding ESE reviewed the URSGWC electronic data deliverable and Appendix S (URSGWC, 2000b) validation documents for reanalysis results. Sample results reported in the original analysis and reanalyses were reviewed and combined by Harding ESE to report a single result. A summary of the result combinations conducted by Harding ESE is provided below.

### **PCB Validation Review Summary:**

- Results for PCB 1248 and PCB 1254 in the original analysis for sample SDTD006B exceeded the calibration range of the instrument. Results for PCB 1248 and PCB 1254 from the reanalysis SDT006BR2 are reported.

### **VOC Validation Review Summary:**

- Sample results for SD08001A and reanalyses SD08001AR2 and SD08001AR3 were reviewed. The validation narrative indicates that the Internal Standard (IS) and surrogate results for the original analysis were outside of criteria. Results for the initial analysis are rejected due to IS and surrogate criteria. The sample was reanalyzed and all results, with the exception of acetone, were reported from SD08001AR2.

Results for acetone in SD08001AR2 exceeded the calibration range and the sample was diluted and reanalyzed as SD08001R3 to bring the acetone quantitation within the linear range of the instrument. Acetone results from SD08001A have been replaced with results from SD08001R3.

- Sample results for SD08002A and SD08003A were reanalyzed due to low surrogate recovery. Surrogate recoveries in the reanalyses were within criteria. Results for the

original analyses have been rejected. All results from SD08002AR2 and SD08003AR2 have been reported.

- Surrogate results for SDMB003 were low. The sample was reanalyzed, SDMB003R2, with similar results. The surrogate recoveries in the original analysis were better than the reanalysis; therefore, results from the original analysis have been reported.
- Surrogate and IS results for SDTD006B were outside of criteria. The sample was reanalyzed at a dilution to minimize matrix effects. Surrogate recoveries and IS for the diluted reanalysis, SDTD006R2, were within criteria. Results from SDTD006R2 have been reported.
- Internal standards for the original analysis of SDTC007B were outside of criteria. The sample was reanalyzed as SDTC007BR2. The reanalysis IS results were within criteria. Results from SDTC007BR2 have been reported.
- Internal standards and surrogates for the original analysis of SDTG001A were outside of criteria. The sample was reanalyzed as SDTG001AR2. The reanalysis internal standards and surrogates were outside of criteria also. The surrogate recovery for the original analysis was better than the reanalysis. Results from the original analysis, SDTG001A, have been reported.
- The internal standard and surrogate recoveries for SDTG002A were outside of criteria. The sample was reanalyzed as SDTG002AR2. The reanalysis internal standards were within criteria but the surrogates were below criteria. The surrogates for the reanalysis had a higher recovery than the original analysis. Results from SDTG002AR2 have been reported.

#### **PAH Validation Review Summary:**

- Results for multiple analytes in the original analysis of sample SD08003A exceeded the calibration range. The sample was reanalyzed as SD08003AR2. The results of the reanalysis for these analytes have been reported; the analytes are: 2-methylnaphthalene, 9H-fluorene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, dibenzo(ah)anthracene and naphthalene.
- Results for multiple analytes in the original analysis of sample SD08004A exceeded the calibration range. The sample was reanalyzed as SD08004AR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.

- Results for multiple analytes in the original analysis of sample SDTB006A exceeded the calibration range. The sample was reanalyzed as SDTB006AR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTB006B exceeded the calibration range. The sample was reanalyzed as SDTB006BR2. The results of the reanalysis for these analytes have been reported; the analytes are: chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTD006B exceeded the calibration range. The sample was reanalyzed as SDTD006BR2. The results of the reanalysis for these analytes have been reported; the analytes are: anthracene, benzo(a)pyrene, fluoranthene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTG002A exceeded the calibration range. The sample was reanalyzed as SDTG002AR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo (a) pyrene, fluoranthene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTG003B exceeded the calibration range. The sample was reanalyzed as SDTG003BR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo (a) anthracene, benzo (a) pyrene, fluoranthene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTH001A exceeded the calibration range. The sample was reanalyzed as SDTH001AR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo (a) anthracene, benzo (a) pyrene, chrysene, fluoranthene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SWMB002A exceeded the calibration range. The sample was reanalyzed as SWMB002AR2. The results of the reanalysis for these analytes have been reported; the analytes are: benzo (a) anthracene, benzo (a) pyrene, chrysene, fluoranthene, naphthalene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTH002A exceeded the calibration range. The sample was reanalyzed as SDTH002AR2. The results of the reanalysis for these analytes have been reported; the analytes are: anthracene, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (k) fluoranthene, chrysene, fluoranthene, indeno (1,2,3-cd) pyrene, phenanthrene and pyrene.
- Results for multiple analytes in the original analysis of sample SDTH011A exceeded the calibration range. The sample was reanalyzed as SDTH011AR2. The results of

the reanalysis for these analytes have been reported; the analytes are: 2-methylnaphthalene, 9H-fluorene, acenaphthene, anthracene, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (ghi) perylene, benzo (k) fluoranthene, chrysene, fluoranthene, indeno (1,2,3-cd) pyrene, phenanthrene and pyrene.

- Results for acenaphthene and 2-methylnaphthalene in the original analysis of sample SDTG004A exceeded the calibration range of the instrument. The sample was reanalyzed as SDTG004AR2. The results from the reanalyses have been reported for acenaphthene and 2-methylnaphthalene.
- Pyrene and benzo(a)pyrene in the original analyses of samples SDTC007A, SWMB001A and SDTG011A exceeded calibration range. The samples were reanalyzed as SDTC007AR2, SWMB001AR2 and SDTG011AR2. The results from the reanalyses have been reported for pyrene and benzo(a)pyrene.
- Pyrene in the original analyses of samples SDTA006A, SDTA007A, SDTC006A, SDTC006B, SDTD006A, SDTD007A and SDTG001A exceeded calibration range. The samples have been reanalyzed as samples SDTA006AR2, SDTA007AR2, SDTC006AR2, SDTC006BR2, SDTD006AR2, SDTD007AR2 and SDTG001AR2. The results from the reanalyses have been reported for pyrene.

#### References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region 1 EPA-NE Data Validation Guidelines for Evaluating Environmental Analyses"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996

URS Greiner Woodward Clyde Federal Services, 2000a. "Draft Remedial Investigation Report, Stratford Army Engine Plant", Stratford Connecticut, Contract Number DACW41-96D-8014, Task Order 0011; September, 2000

URS Greiner Woodward Clyde Federal Services, 2000b. "Draft Remedial Investigation Report Stratford Army Engine Plant, Appendix S Volume 9 of 9", Stratford Connecticut, Contract Number DACW41-96D-8014, Task Order 0011; March 17,2000

## **Surface Water Validation Review Summary URSGWC 2000 Draft RI Report Electronic Data**

### **Objective and Introduction:**

Upon review of electronic data submitted to Harding ESE by URS Greiner Woodward Clyde Federal Services (URSGWC), of Wayne, New Jersey, it was observed that there were re-analyses of several surface water samples (collected in 1999) reported in the 2000 Draft Remedial Investigation Report (URSGWC, 2000a). In order to conduct statistical manipulation of the data for the revised risk assessments, these re-analyses were evaluated and the data combined to produce one result for each sample parameter. The following text describes the approach and actions of this data validation.

URSGWC collected and submitted surface water samples for analysis by USEPA PCB, VOC, metals and inorganics analyses. Data packages were validated by URSGWC using USEPA Contract Laboratory Program National Functional Guidelines for Organics/Inorganics Review (USEPA 1994) where applicable (URSGWC, 2000b). Data validation was performed by URSGWC (URSGWC, 2000b). Harding ESE reviewed the URSGWC electronic data deliverable and Appendix S (URSGWC, 2000b) validation documents for reanalysis results. Sample results reported in the original analysis and reanalyses were reviewed and combined by Harding ESE to report a single result. A summary of the result combinations conducted by Harding ESE is provided below.

### **Multiple Parameter Validation Review Summary:**

- Reanalysis samples SWMB001R and SWMB002R were reanalyzed for methyl mercury (method BR-0011), arsenic and trivalent arsenic (method BR-0021), PAH, PCB, cyanide, metals and VOC's. The information in the electronic data file and the validation report (laboratory work group 990595) does not indicate which samples these are reanalyses of. The results from SWMB001R and SWMB002R have been rejected from the database. Reanalysis SWMB002R2 has also been rejected from the database because it is the second reanalysis of trivalent arsenic for sample SWMB002R.

### **Methyl Mercury Validation Review Summary:**

- Results for methyl mercury in sample SWMB004H and SWUS002H were reanalyzed and reported under SWMB004HR2 and SWUS002HR2. An explanation for the reanalysis was not presented in the validation report (laboratory work group 990578). The reanalysis results presented in SWMB004HR2 and SWUS002HR2 are the same as the original analysis. The results from SWMB004HR2 and SWUS002HR2 have been deleted from the database.



- The method blank results for SWMB001H were outside of criteria for methyl mercury. The sample was reanalyzed as SWMB001HR2. The reanalysis method blanks were within criteria, therefore, the reanalysis results have been reported.

#### **Arsenic Validation Review Summary:**

- The method blank results for SW08002L were outside of criteria for arsenic and trivalent arsenic. The sample was reanalyzed as SW08002LR2. The reanalysis method blanks were within criteria, therefore, the reanalysis results have been reported.
- The method blank results for SWMB001H were outside of criteria for trivalent arsenic. The sample was reanalyzed as SWMB001HR2. The reanalysis method blanks were within criteria, therefore, the reanalysis results have been reported.
- Results for trivalent arsenic in sample SWUS002L were reanalyzed and reported under SWUS002LR2. An explanation for the reanalysis was not presented in the validation report (laboratory work group 990578). The reanalysis results presented in SWUS002LR2 are similar to the original analysis results. The results from SWUS002LR2 have been deleted from the database.
- Results for arsenic (method BR-0021) in sample SWUS003L were reanalyzed and reported under SWUS003LR2. An explanation for the reanalysis was not presented in the validation report (laboratory work group 990578). The reanalysis results presented in SWUS003LR2 are the same as the original analysis. The results from SWUS003LR2 have been deleted from the database.

#### **References:**

U.S. Environmental Protection Agency (USEPA), 1996. "Region 1 EPA-NE Data Validation Guidelines for Evaluating Environmental Analyses"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; December 1996

URS Greiner Woodward Clyde Federal Services, 2000a. "Draft Remedial Investigation Report, Stratford Army Engine Plant", Stratford Connecticut, Contract Number DACW41-96D-8014, Task Order 0011; September, 2000

URS Greiner Woodward Clyde Federal Services, 2000b. "Remedial Investigation Stratford Army Engine Plant, Appendix S Volume 9 of 9", Stratford Connecticut, Contract Number DACW41-96D-8014, Task Order 0011; March 17,2000

**C-5**

**2004 SOIL VAPOR MONITORING DATA VALIDATION REPORT**

**Soil Vapor Sampling  
Data Validation Report  
April 2004  
Stratford Army Engine Plant**

**I. INTRODUCTION**

Data validation was performed on the analytical data for air samples collected by MACTEC Engineering and Consulting (formerly Harding ESE) at the Stratford Army Engine Plant (SAEP) Site. A Tier II validation with ten percent Tier III data validation was completed in accordance with USEPA Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses (USEPA, 1996). Samples for Soil Vapor Monitoring were collected on April 6 and 7, 2004. All samples were analyzed by Air Toxics Ltd., located in Folsom, CA. Air Toxics performed VOC air analysis on 1 liter Tedlar Bags using EPA modified Method TO-15 using gas chromatography/mass spectrometry (GC/MS) in the Single Ion Monitoring (SIM) acquisition mode. A summary of samples included in this data set is provided below:

<b>Field Sample ID</b>	<b>Lab Sample ID</b>	<b>Sample Date</b>	<b>QC Type</b>
SVM-04-01	0404116A-01A	4/6/04	
SVM-04-02	0404116A-02A	4/6/04	
SVM-04-03	0404116A-03A	4/6/04	
SVM-04-04	0404116A-04A	4/6/04	
SVM-04-05	0404116A-05A	4/6/04	
SVM-04-06	0404116A-06A	4/6/04	
SVM-04-07	0404116A-07A	4/6/04	
SVM-04-08	0404116A-08A	4/6/04	
SVM-04-09	0404116A-09A	4/6/04	
SVM-04-10	0404116A-10A	4/6/04	
SVM-04-11	0404116A-11A	4/6/04	
SVM-04-12	0404116A-12A	4/6/04	
SVM-04-13	0404116A-13A	4/6/04	
SVM-04-14	0404116A-14A	4/6/04	
SVM-04-15	0404140A-17A	4/7/04	
SVM-04-16	0404140A-18A	4/7/04	
SVM-04-18	0404116A-15A	4/6/04	
SVM-04-19	0404116A-16A	4/6/04	
SVM-04-19D	0404116A-17A	4/6/04	Field Duplicate
SVM-04-20	0404116A-18A	4/6/04	
SVM-04-21	0404140A-19A	4/7/04	
SVM-04-22	0404140A-20A	4/7/04	
SVM-04-23	0404140B-21A	4/6/04	
SVM-04-24	0404140B-22A	4/6/04	
SVM-04-25	0404140B-23A	4/6/04	
SVM-04-26	0404140B-24A	4/6/04	
SVM-04-27	0404116C-35A	4/6/04	
SVM-04-28	0404116C-36A	4/6/04	

SVM-04-29	0404116C-37A	4/6/04	
SVM-04-30	0404116C-38A	4/6/04	
SVM-04-31	0404116C-39A	4/6/04	
SVM-04-32	0404140A-01A	4/7/04	
SVM-04-33	0404116C-40A	4/6/04	
SVM-04-34	0404116C-41A	4/6/04	
SVM-04-35	0404140A-02A	4/7/04	
SVM-04-36	0404116C-42A	4/6/04	
SVM-04-37	0404116C-43A	4/6/04	
SVM-04-38	0404140A-03A	4/7/04	
SVM-04-39	0404140A-04A	4/7/04	
SVM-04-40	0404140A-05A	4/7/04	
SVM-04-41	0404140A-06A	4/7/04	
SVM-04-41D	0404140A-07A	4/7/04	Field Duplicate
SVM-04-42	0404140A-08A	4/7/04	
SVM-04-43	0404116B-25A	4/6/04	
SVM-04-44	0404140A-09A	4/7/04	
SVM-04-45	0404116B-26A	4/6/04	
SVM-04-46	0404116B-27A	4/6/04	
SVM-04-47	0404140A-10A	4/7/04	
SVM-04-48	0404140A-11A	4/7/04	
SVM-04-49	0404140A-12A	4/7/04	
SVM-04-50	0404116B-24A	4/6/04	
SVM-04-51	0404116B-28A	4/6/04	
SVM-04-51D	0404116B-29A	4/6/04	Field Duplicate
SVM-04-52	0404140A-13A	4/7/04	
SVM-04-53	0404140A-14A	4/7/04	
SVM-04-54	0404140A-15A	4/7/04	
SVM-04-55	0404140A-16A	4/7/04	
SVM-04-56	0404116B-30A	4/6/04	
SVM-04-58	0404116C-34A	4/6/04	
SVM-04-59	0404116C-31A	4/6/04	
SVM-04-60	0404116C-32A	4/6/04	
SVM-04-61	0404116C-33A	4/6/04	
SVM-04-62	0404140B-25A	4/6/04	
SVM-04-63	0404140B-26A	4/6/04	
SVM-04-63D	0404140B-27A	4/6/04	Field Duplicate
SVM-04-64	0404140B-28A	4/6/04	
SVM-04-65	0404140B-29A	4/6/04	
SVM-04-66	0404116A-20A	4/6/04	
SVM-04-68	0404116A-19A	4/6/04	
SVM-04-69	0404116B-21A	4/6/04	
SVM-04-70	0404116B-22A	4/6/04	
SVM-04-71	0404116B-23A	4/6/04	

The samples were analyzed for the following seven volatile organic compounds:

- vinyl chloride
- 1,1-dichloroethene (1,1-DCE)
- 1,1,1-trichloroethane (1,1,1-TCA)
- trichloroethene (TCE)
- tetrachloroethene (PCE)
- cis-1,2-dichloroethene (cis-1,2-DCE)
- trans-1,2-dichloroethene (trans-1,2-DCE)

The following information was reviewed:

- \* Sample Collection Documentation and Data Completeness
- \* EDD verification vs. Summary Forms
- \* Preservation and Holding times
- \* GC/MS Performance Check (tuning)
- \* Initial Calibration
- \* Continuing Calibration
- \* QC Blanks
- \* Internal Standard Response
- \* Surrogate Recovery
- \* Spike Accuracy and Precision
- \* Field Duplicates

\* - All criteria were met for this parameter.

## II. VALIDATION RESULTS AND ACTIONS

### Holding Times

All samples were analyzed within the holding times (3 days from collection).

### Instrument Tunes

The GC/MS instrument tunes were completed using the tuning compound bromofluorobenzene (BFB). All tunes met USEPA Region I validation criteria.

### Initial Calibration

For the initial calibration curves applying to all volatile organics samples target analytes, the average Relative Response Factors (RRFs) for all target compounds were greater than the USEPA Region I minimum criterion of 0.05, indicating good response on the instrument was obtained for all compounds. The percent Relative Standard Deviations (%RSDs) of the RRFs over the five point calibration were less than the Region I goals of 30% for all initial calibrations.

### Continuing Calibration

For the continuing calibration standards applying to all volatile organics samples target analytes, the RRFs for all seven target compounds were greater than the Region I minimum criterion of 0.05 indicating good response on the instrument was obtained for all compounds. The percent differences between the RRFs and the initial calibration average RRFs were less than 25 for all continuing calibrations.

### Method Blanks

For each analytical batch, a method blank was analyzed prior to sample analysis. All target analytes were non-detect.

### Internal Standard Response

All internal standard areas and retention times were within USEPA Region I control limits as and were within the laboratory's control limits.

### Surrogate Recoveries

Surrogate recoveries were within the 70-130 percent control limits specified by the laboratory indicating good accuracy was observed for each sample.

### Spike Recoveries

Laboratory control samples (LCS) had recoveries between 92 and 128 percent indicating good accuracy.

### Duplicates

Field duplicates were collected and analyzed for sample locations SVM-04-19, SVM-04-41, SVM-04-51 and SVM-04-63. Laboratory duplicates were analyzed for samples SVM-04-08, SVM-04-14, SVM-04-22, SVM-04-23, SVM-04-36, SVM-04-47 and SVM-04-71. Results of the field duplicate and laboratory duplicate analyzed are summarized in Table 1. A goal for relative percent difference (RPD) of 50 or less was used when evaluating the duplicate data. All results were within this limit indicating good sampling and analytical precision was obtained.

**Table 1**

Sample ID	Analyte	Original Result (ppb/v)	Qual	Duplicate Result (ppb/v)	Qual	RPD
SVM-04-19	1,1-Dichloroethene	0.99		1.0		1.0%
SVM-04-19	1,1,1-Trichloroethene	0.012		0.013		8.0%
SVM-04-19	Trichloroethene	0.13		0.12		8.0%
SVM-04-19	Tetrachloroethene	0.0065		0.0063		3.1%
SVM-04-19	cis-1,2-Dichloroethene	0.080		0.081		1.2%
SVM-04-19	Vinyl chloride	0.12		0.13		8.0%
SVM-04-41	1,1,1-Trichloroethene	0.0051		0.0052		1.9%
SVM-04-41	Trichloroethene	0.18		0.19		5.4%
SVM-04-41	Tetrachloroethene	0.14		0.14		0%
SVM-04-51	1,1-Dichloroethene	0.0063		0.0059		6.6%
SVM-04-51	Trichloroethene	0.014		0.014		0%
SVM-04-51	Tetrachloroethene	0.0099		0.0096		3.1%
SVM-04-63	1,1,1-Trichloroethene	0.38		0.38		0%
SVM-04-63	Trichloroethene	0.32		0.30		6.5%
SVM-04-63	Tetrachloroethene	0.042		0.041		2.4%

SVM-04-63	1,1-Dichloroethene	0.073		0.074		<b>1.4%</b>
SVM-04-63	cis-1,2-Dichloroethene	0.034		0.030		<b>13%</b>
SVM-04-08	1,1,1-Trichloroethene	0.77		0.80		<b>3.8%</b>
SVM-04-08	Trichloroethene	6.5		6.5		<b>0%</b>
SVM-04-08	Tetrachloroethene	0.083		0.082		<b>1.2%</b>
SVM-04-08	1,1-Dichloroethene	0.33		0.032		<b>3.1%</b>
SVM-04-08	trans-1,2-Dichloroethene	0.016		0.016		<b>0%</b>
SVM-04-08	cis-1,2-Dichloroethene	0.33		0.34		<b>3.0%</b>
SVM-04-14	1,1,1-Trichloroethene	0.13		0.13		<b>0%</b>
SVM-04-14	Trichloroethene	0.61		0.60		<b>1.7%</b>
SVM-04-14	Tetrachloroethene	0.022		0.022		<b>0%</b>
SVM-04-14	1,1-Dichloroethene	0.64		0.64		<b>0%</b>
SVM-04-14	cis-1,2-Dichloroethene	0.15		0.15		<b>0%</b>
SVM-04-22	1,1,1-Trichloroethene	2.6		2.6		<b>0%</b>
SVM-04-22	Trichloroethene	38		38		<b>0%</b>
SVM-04-22	Tetrachloroethene	0.21		0.21		<b>0%</b>
SVM-04-22	1,1-Dichloroethene	0.31		0.30		<b>3.3%</b>
SVM-04-22	cis-1,2-Dichloroethene	0.28		0.27		<b>3.6%</b>
SVM-04-23	1,1,1-Trichloroethene	0.068		0.070		<b>2.9%</b>
SVM-04-23	Trichloroethene	8.6		8.5		<b>1.2%</b>
SVM-04-23	Tetrachloroethene	0.050		0.052		<b>3.9%</b>
SVM-04-23	trans-1,2-Dichloroethene	0.47		0.46		<b>2.2%</b>
SVM-04-23	cis-1,2-Dichloroethene	18		18		<b>0%</b>
SVM-04-36	1,1,1-Trichloroethene	0.041		0.040		<b>2.5%</b>
SVM-04-36	Trichloroethene	0.41		0.41		<b>0%</b>
SVM-04-36	Tetrachloroethene	1.6		1.6		<b>0%</b>
SVM-04-36	1,1-Dichloroethene	0.0071		0.0072		<b>1.4%</b>
SVM-04-36	trans-1,2-Dichloroethene	0.0058		0.0064		<b>9.8%</b>
SVM-04-36	cis-1,2-Dichloroethene	0.19		0.18		<b>3.8%</b>
SVM-04-47	1,1,1-Trichloroethene	1.5		1.6		<b>6.5%</b>
SVM-04-47	Trichloroethene	0.19		0.20		<b>5.1%</b>
SVM-04-47	Tetrachloroethene	0.42		0.44		<b>4.7%</b>
SVM-04-47	1,1-Dichloroethene	0.15		0.18		<b>18%</b>
SVM-04-47	cis-1,2-Dichloroethene	0.010		0.011		<b>9.5%</b>
SVM-04-71	1,1,1-Trichloroethene	0.15		0.15		<b>0%</b>
SVM-04-71	Trichloroethene	0.042		0.041		<b>2.4%</b>
SVM-04-71	Tetrachloroethene	0.13		0.12		<b>8.0%</b>
SVM-04-71	1,1-Dichloroethene	0.020		0.018		<b>11%</b>
SVM-04-71	cis-1,2-Dichloroethene	0.028		0.025		<b>11%</b>

#### References:

U.S. Environmental Protection Agency (USEPA), 1996. "Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses;" QA Unit - Office of Environmental Measurement and Evaluation; USEPA Region I, New England; July 1996, Revised December 1996.

Data Validator: Wolfgang D. Calicchio

Signature: 

Date: 11 August 2004